DOCUMENT RESUME

ED 089 017 CE 001 055

TITLE Working Together: KCTS-TV Channel 9 Temporary Guide, Grades 1-2.
INSTITUTION KCTS-TV, Seattle, Washington.
PUB DATE 73
NOTE 158p.

EDRS PRICE MF-$0.75 HC-$7.80 PLUS POSTAGE
DESCRIPTORS *Career Education; *Primary Grades; Programing (Broadcast); *Teaching Guides; *Televised Instruction
IDENTIFIERS Career Awareness; *Washington

ABSTRACT

"Working Together" is the title of a television series of 30 fifteen-minute programs designed to convey to primary students that people depend on people and that people depend on their environment, as an introduction to career awareness. The topics were chosen on the basis of interest of primary students, availability for research within Washington State, exceptional learning opportunities, visual potential for television presentation, and ease of photography. The purpose of the teacher's guide is to familiarize the teacher with the subject matter of each program. The first eight programs deal primarily with occupations close to the child's immediate community; four programs deal with the environment of the forest and with wood products, ten with communication, five with transportation, two with community services with specific environmental implications, and a summary program on restaurants. For each program, the guide presents its concepts, topic, focus, location, background information, and discussion considerations. Activities are suggested for each program with an explanation of their objectives, materials needed, and the procedure to follow. (AG)

ED 089017

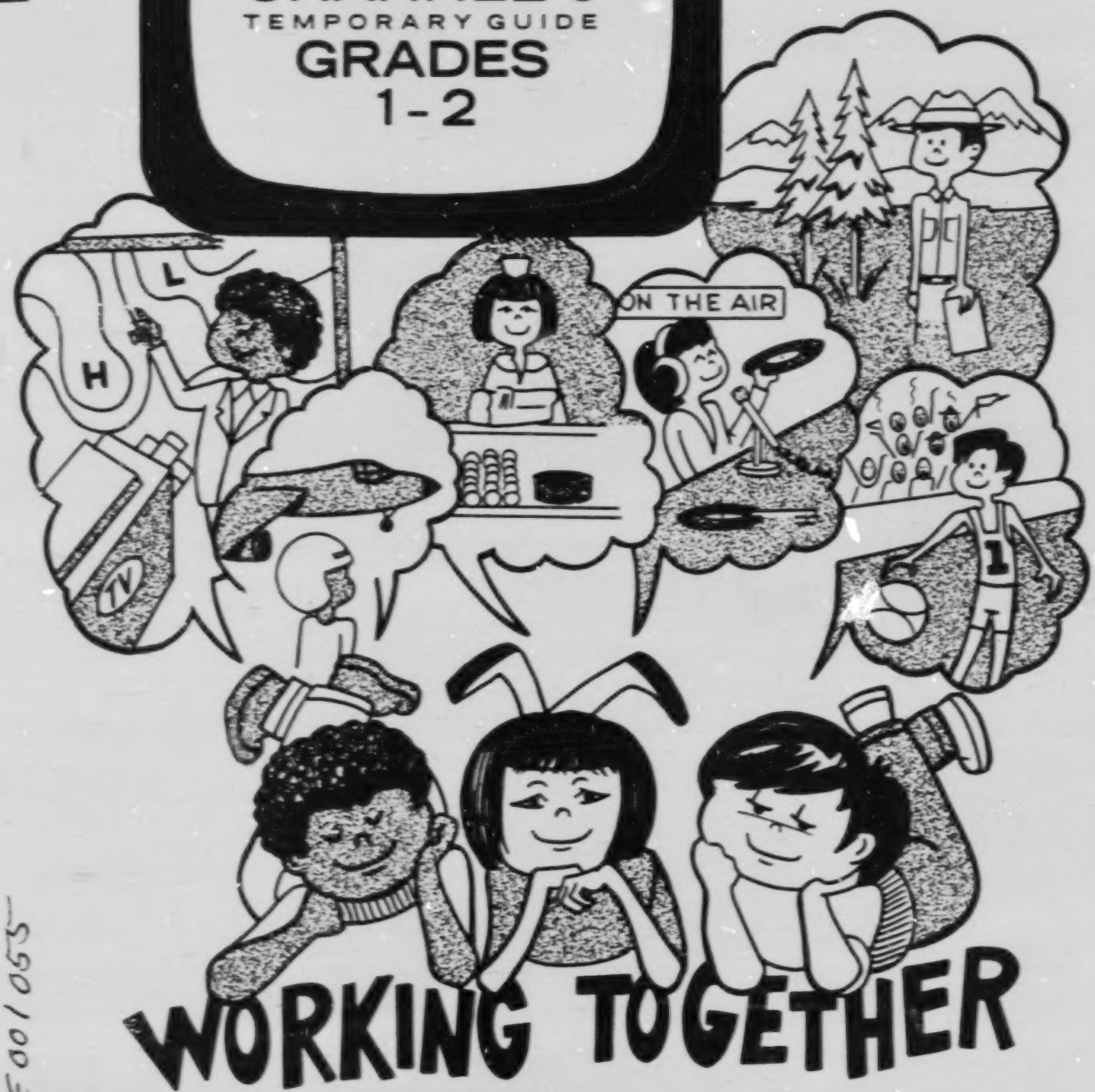
U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

KCTS-TV

CHANNEL 9

TEMPORARY GUIDE

GRADES 1-2



WORKING TOGETHER

CE 001 055

WORKING TOGETHER

Lynn Severance Nancy Wells	Teachers/Producers
Norman Jensen	Director
G. C. Harper	Photographer
Richard Kinsman	Graphics

This is a temporary guide, subject to change without notice. A permanent, re-edited guide will be published for 1973-74. (Series recorded 1972-73.)

KCTS-TV, Channel 9
Seattle, Washington 98195
Telephone: (206) 543-2000

TABLE OF CONTENTS

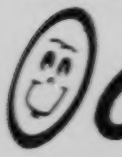
Calendar i
Rationale for the Series ii
The Series At a Glance iv
A Child Went Forth xiii
General Activities xiv
"Working Together" Theme Song xix
DON'T MISS OUR CENTER FOLD!

LESSONS

1.	Family Relationships	"Home Sweet Home".	1
2.	The School Family	"Getting Together"	5
3.	The Produce Manager	"To Market! To Market!".	9
4.	The Veterinarian	"Your Pet's Pal"	13
5.	The Dentist	"Put On A Happy Face".	19
6.	The Wheat Farm	"Wheat's Neat To Eat".	27
7.	The Baker	"Flour Power"	31
8.	The Turkey Farm	"Turkey Day Is On Its Way"	37
9.	The Forest Ranger.	"Green Scene"	45
10.	The Paper Mill	"Paper Caper"	55
11.	The Doormaking Plant	"Walk Right In	61
12.	The Toymaker	"Sit Right Down"	67
13.	The Television Weatherman. . . .	"Raindrops Keep ...What?".	73
14.	The Rainwear Manufacturer. . . .	"It's Raining! It's Pouring!" . . .	79
15.	The Ski Instructor	"Snowplow Knowhow"	83
16.	The Airplane Crew	"Fasten Your Seat Belts"	89
17.	Newspaper Print	"Black And White And Read All Over".	95
18.	The Paper Boy	"News Is My Bag"	99
19.	The Disc Jockey	"Play It Again, Morton".	103
20.	The Indian Woodcarver.	"Wooden Memories"	109
21.	The Graphic Artist	"Try To See It My Way"	113
22.	The Basketball Player.	"Hoop Dee Doo"	117
23.	The State Patrol	"Slow Down You Move Too Fast". . . .	123
24.	The Auto Technician.	"Give Us A Brake"	127
25.	The Fuel Distributor	"Tiny Tanker Fuel"	131
26.	The Shipyard	"Is Everything Ship Shape?".	135
27.	Clam Harvesting.	"Ooey Gooey".	139
28.	The Garbage Collector.	"Every Litter Bit Hurts"	147
29.	Soft Drink Bottling.	"Pop, Fizz! Gee Whiz!"	151
30.	The Restaurant	"Service With A Smile"	155

REMINDER ! !

CIRCLE YOUR CALENDAR ! MARK THESE DATES IN YOUR PLAN BOOK !



OCTOBER...1972

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

WORKING TOGETHER : STARTS THE FIRST WEEK OF OCTOBER ! ! ! !

RATIONALE FOR THE SERIES

People learn best from real-life situations so it is important that youngsters be given the opportunity to observe people relating to each other and to their environment.

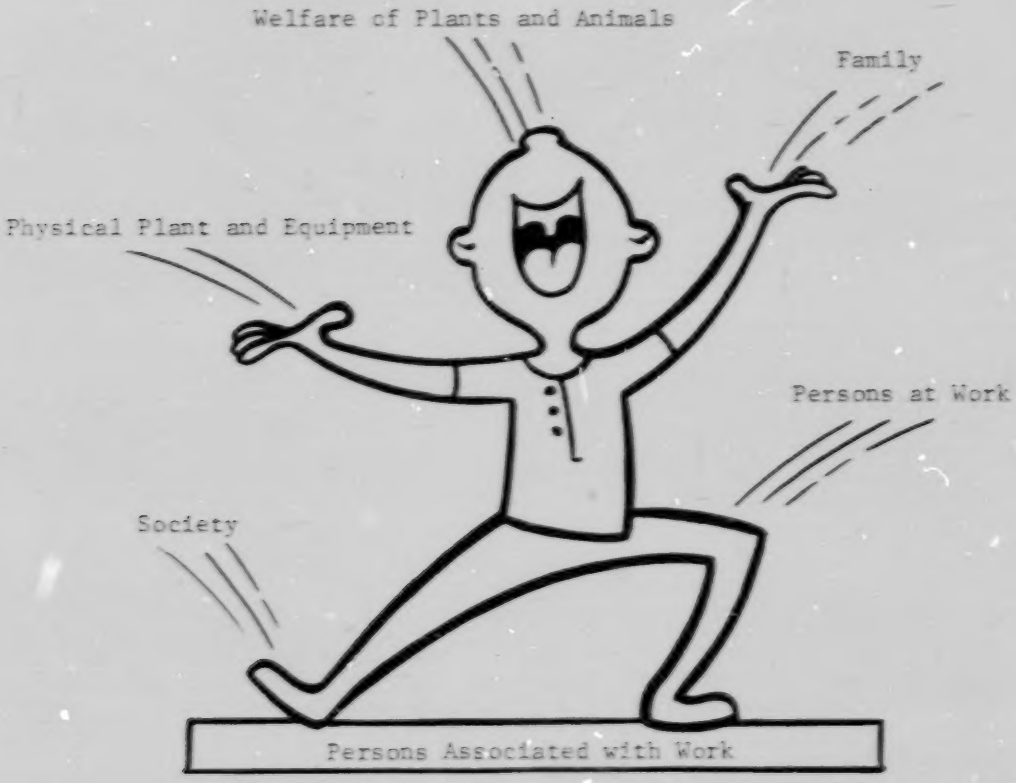
We live in a society where most adults and many young people are involved in some kind of work. Various occupations contribute to the interdependent nature of our society.

In approaching an occupational awareness series for primary students, we feel the need to emphasize these two basic concepts:

PEOPLE DEPEND ON PEOPLE

PEOPLE DEPEND ON THEIR ENVIRONMENT

By presenting workers that directly relate to a young child's needs and world, new awarenesses can come across within the context of real-life situations familiar to the students. We hope to accomplish our goals through the following perspective:



ROLE OF THE CLASSROOM TEACHER

The thirty topics for the WORKING TOGETHER series were developed on the basis of:

1. interest of primary students.
2. availability for research within our state.
3. exceptional learning opportunities.
4. visual potential for television presentation.
5. ease of photography.

The purpose of the teacher's guide is to familiarize the teacher with the subject matter of each program. In most cases, background information is detailed far beyond what will be presented on the program. Hopefully, this will suggest directions in which units may be developed. The potential of the series rests in the follow-up attention that individual teachers will do with their classes. Activities are suggested merely as a starting point. The entire area of career awareness (rather than career decision making) and of people's relating to their environment can be beautifully interwoven with all "subject areas." It is our hope that each 15-minute program will spark off interest that will go beyond that limited amount of time.

*We would appreciate any immediate feedback on the series via letter (teacher or student) or phone call. It is during this production year that positive remarks and constructive criticism can help us make the series a super-good one!!

**We are also available for classroom visitations. To make arrangements, call or write:

WORKING TOGETHER
%KCTS-TV, Channel 9
University of Washington
Seattle, Washington 98195
(206) 543-2000

***With your help, we are planning on this being a very exciting year!

Nancy & Lynn

THE SERIES AT A GLANCE

LESSON 1: THERE'S NO PLACE LIKE HOME

CONCEPTS: Each student is a part of a family group and a particular life style.

Work can be interpreted in a variety of way.

TOPIC: Family Relationships
FOCUS: Different Family Life Styles
LOCATION: Federal Way, Washington
Edmonds, Washington

LESSON 2: GETTING TOGETHER

CONCEPTS: Many people contribute to the effectiveness of learning situations in an elementary school.

Students are part of a team of workers that should function interdependently.

TOPIC: School Family
FOCUS: Team Work of School Staff and Students
LOCATION: Beacon Hill Elementary
Seattle, Washington

LESSON 3: TO MARKET! TO MARKET!

CONCEPTS: The produce manager is responsible for making fresh produce available to supermarket customers.

Fresh vegetables and fresh fruits are an important part of our daily diet.

TOPIC: Community Food Services
FOCUS: Homer Millspah, Produce Department Manager/Trainer
LOCATION: Albertsons Grocery Store
Bellevue, Washington

LESSON 4: YOUR PET'S PAL

CONCEPTS: Some veterinarians concern themselves with the health and comfort of various pet animals.

LESSON 4: Continued

Pet owners have a responsibility for the care and health of their animals.

TOPIC: Medicine
FOCUS: Dr. E. Doyle Montgomery, Veterinarian
LOCATION: Five Corners Veterinary Hospital
Seattle, Washington

LESSON 5: PUT ON A HAPPY FACE

CONCEPTS: A dentist is a doctor specifically trained to care for people's teeth.

If young children can be trained in proper dental practices, dental problems can be decreased and, in many cases, prevented.

TOPIC: Medicine
FOCUS: Dr. Robert Allen, Dentist
LOCATION: Northgate Plaza
Seattle, Washington

LESSON 6: WHEAT'S NEAT TO EAT

CONCEPTS: Wheat is the grain used to make flour.

Wheat farmers depend on weather to produce a plentiful crop yield.

Machines are used to enable a farmer to harvest many acres of land.

TOPIC: Grain Harvesting
FOCUS: Combine Operator
LOCATION: Lacrosse, Washington

LESSON 7: FLOUR POWER

CONCEPTS: Flour is an important nutritional element in many of the foods we eat.

Flour is made from wheat.

A baker is responsible for making food goods that can be sold to customers.

LESSON 7: Continued

TOPIC: Community Food Services
FOCUS: Marion Slys, Baker
LOCATION: Poulsbo, Washington

LESSON 8: TURKEY DAY IS ON ITS WAY

CONCEPTS: Under properly managed conditions, turkeys can be raised for commercial market.

Turkey dinner is a Thanksgiving tradition for many American families.

TOPIC: Poultry Production and Marketing
FOCUS: Lee Adams, Foreman
LOCATION: Rusk Turkey Hatchery and Farms
Grandview, Washington

LESSON 9: GREEN SCENE

CONCEPTS: It is necessary that our natural forest resources be managed properly if they are to continue to provide us with both aesthetic beauty and useful goods.

A forester with the National Forest Service is skilled in the area of forest management.

We all make decisions that affect the environmental quality of the forest.

TOPIC: Forest Management
FOCUS: Dalton DuLac, District Ranger
LOCATION: Mount Baker National Forest
Monte Cristo District
Verlot Ranger Station

LESSON 10: PAPER CAPER

CONCEPTS: Paper is a part of our 20th century pattern of life that we tend to take for granted. We use it in literally thousands of ways.

Paper is made from wood.

The process of making paper involves some environmental concerns.

LESSON 10: Continued

TOPIC: Wood Products
FOCUS: Production of Paper, Paper Mill
LOCATION: Crown Zellerbach Paper Company
Port Angeles, Washington

LESSON 11: WALK RIGHT IN

CONCEPTS: We use wood products everyday.

In a wood processing plant, teams of workers contribute their skills in making an end product.

TOPIC: Doormaking
FOCUS: Production Line
LOCATION: Simpson Timber Company
McCleary, Washington

LESSON 12: SIT RIGHT DOWN

CONCEPTS: Wood can be creatively designed and made into useful products for young people. Toymaking does not always involve commercial mass production. Safety concerns are a large factor in the production of children's toys.

TOPIC: Wood Products
FOCUS: Pete Garrison, Toymaker
LOCATION: Mercer Island, Washington

LESSON 13: RAINDROPS KEEP...WHAT?

CONCEPTS: Weather information is necessary for people in various occupations. A meteorologist is a trained specialist who uses scientific methods to study the weather. From the studies he or she makes forecasts. A television weather person is usually a person on the staff of a television broadcasting station who receives information from meteorologists and passes this on to the public.

TOPIC: Environmental Communication
FOCUS: Meteorologist and Television Weatherman
LOCATION: National Weather Service, Seattle, Washington
Ray Ramsey, KOMO-TV, Seattle, Washington

LESSON 14: IT'S RAINING! IT'S POURING!

CONCEPTS: Most occupations require people to work no matter what the weather might be.

People who work out-of-doors during wet weather need proper clothing.

The manufacturing of rainwear requires teamwork.

TOPIC: Rainwear Manufacturing
FOCUS: Production Line
LOCATION: George A. Johnson Company
Ballard, Washington

LESSON 15: SNOWPLOW KNOWHOW

CONCEPTS: Winter sports provide recreation for millions of people in the United States.

Skiing is a sport that can only be mastered by training and practice.

Many school districts sponsor ski schools that allow students the opportunity to be taught how to ski by qualified instructors.

TOPIC: Recreation
FOCUS: Ski Instructor
LOCATION: Bellevue Ski School
Crystal Mountain, Washington

LESSON 16: FASTEN YOUR SEAT BELTS

CONCEPTS: A commercial airline pilot is constantly going to school and learning techniques to insure safe flying.

Stewardesses are trained to meet passenger needs.

An airport relies on many people working together to get passengers safely to their destination.

TOPIC: Air Transportation
FOCUS: Pilot, Stewardess and Clean-Up Crew
LOCATION: United Air Lines
Seattle, Washington

LESSON 17: BLACK AND WHITE AND READ ALL OVER

CONCEPTS: Printing is the process of making a number of identical copies of any design or pattern.

LESSON 17: Continued

Information we use everyday is communicated through a newspaper.

TOPIC: Communication
FOCUS: Newspaper Printing
LOCATION: News Publishing Company
Seattle, Washington

LESSON 18: NEWS IS MY BAG

CONCEPTS: People in a community depend on the paper boy to get local news.

It is possible for children to be paid for carrying out the responsibilities of a job.

TOPIC: Community Service
FOCUS: Jim Brownfield, Newspaper Boy
LOCATION: Federal Way, Washington

LESSON 19: PLAY IT AGAIN, MORTON

CONCEPTS: Music is an important part of a society's culture. One way it is transmitted is over a radio broadcasting system.

A radio station is maintained financially through the support of sponsors and therefore broadcasts commercials that will make the public aware of the sponsors and therefore broadcasts commercials that will make the public aware of the sponsor's product.

TOPIC: Broadcasting
FOCUS: Jack Morton, Disc Jockey
LOCATION: KOL, 1300 on the dial
Seattle, Washington

LESSON 20: WOODEN MEMORIES

CONCEPTS: The culture of a people can be continued if it is handed down to new generations.

The art of woodcarving is an important part of the Lummi Indian tradition.

TOPIC: Northwest Indian Craft
FOCUS: Morrie Alexander, Woodcarver
LOCATION: Bellingham, Washington

LESSON 21: TRY TO SEE IT MY WAY

CONCEPTS: Graphic artists are responsible for taking an idea and communicating it via a visual expression.

There are a variety of ways that people will advertise goods and services to get the attention of the public.

TOPICS: Graphic Arts
FOCUS: Irwin Caplan, Graphic Designer
LOCATION: Graphic Studios
Seattle, Washington

LESSON 22: HOOP DEE DOO

CONCEPTS: Participation as a member of a professional sports team requires skill, training and lots of practice.

People participate at sports events as spectators.

TOPIC: Sports
FOCUS: Spencer Haywood, Basketball Forward
LOCATION: Seattle SuperSonics
Seattle, Washington

LESSON 23: SLOW DOWN YOU MOVE TOO FAST

CONCEPTS: The State Patrol is responsible for law enforcement on our state highways.

The State Patrol is needed to assist motorists.

TOPIC: Law Enforcement
FOCUS: State Trooper
LOCATION: Washington State Patrol

LESSON 24: GIVE US A BRAKE

CONCEPTS: Many people transport themselves in automobiles.

Most methods of transportation require fuel as a source of energy.

Many people depend on the workers in a gasoline service station to maintain and repair their automobiles.

TOPIC: Community Service
FOCUS: George "Smiley" Harris, Auto Technician
American Oil Station
Edmonds, Washington

LESSON 25: TINY TANKER

CONCEPTS: Fuel is any substance that produces useful heat or power when burned.

A tanker is a ship that carries fuel.

People who live in houseboats need fuel to keep them warm during the wintertime.

TOPIC: Fuel Distribution
FOCUS: Dick Timberman, Owner
LOCATION: Tiny Tanker, Inc.
Lake Union, Seattle, Washington

LESSON 26: IS EVERYTHING SHIPSHAPE?

CONCEPTS: Maintenance of boats and ships is necessary if they are to continue to serve their purpose.

Skilled craftsmen are part of a shipyard team that maintains boats and ships.

TOPIC: Water transportation
FOCUS: Maintenance
LOCATION: Pacific Shipyard
Anacortes, Washington

LESSON 27: OOEY GOOEY

CONCEPTS: Geoducks are a type of clam that only recently have been harvested for commercial use.

Commercial harvesting of geoducks requires that attention be paid to environmental controls that have been established by the Department of Fisheries.

Going into business requires team work, know how, perseverance and faith.

TOPIC: Clam Harvesting
FOCUS: Diving Team and Processing Plant
LOCATION: Washington King Clam, Inc.
Poulsbo, Washington

LESSON 28: EVERY LITTER BIT HURTS

CONCEPTS: Everyone has refuse.

LESSON 28: Continued

We depend on the garbage collector to help us get rid of refuse.

Disposing of refuse raises questions of environmental concern.

TOPIC: Community Service
FOCUS: Garbage Collector
LOCATION: Seattle Disposal Company
Seattle, Washington

LESSON 29: POP, FIZZ! GEE WHIZ!

CONCEPTS: Although bottling and canning processes are done automatically, people are still needed as the "human element" to insure a flawless product.

Used glass products are being reclaimed and reused to minimize the removal of glass and cans from the natural environment and to reduce pollution.

TOPIC: Soft Drink Bottling
FOCUS: Production Line
LOCATION: Glaser Beverages
Seattle, Washington

LESSON 30: SERVICE WITH A SMILE

CONCEPTS: In order for a restaurant to run smoothly, many people must perform their duties efficiently and work as a team.

TOPIC: Community Food Service
FOCUS: Staff of Restaurant
LOCATION: Ivar's Salmon House
Seattle, Washington

Excerpts from

THERE WAS A CHILD WENT FORTH

by Walt Whitman

There was a child went forth every day;
And the first object he look'd upon, that object he became;
And that object became part of him for the day or a certain part of the day,
Or for many years or stretching cycles of years.
The early lilacs became part of this child,
And grass and white and red morning-glories, and white and red clover, and
the song of the phoebe-bird, ...

His own parents, he that had father'd him and she that had conceiv'd him in
her womb and birth'd him,
They gave this child more of themselves than that;
They gave him afterward every day, they became part of him . . . .

The family usages, the language, the company, the furniture, the yearning
and swelling heart,
Affection that will not be gainsay'd, the sense of what is real, the thought
if after all it should prove unreal,
The doubts of day-time and the doubts of night-time, the curious whether
and how,
Whether that which appears so is so, or is it all flashes and specks?

Men and women crowding fast in the streets, if they are not flashes and
specks what are they?
The streets themselves and the facades of houses and goods in the windows,
Vehicles, teams, and heavy-plank'd wharves, the huge crossing at the ferries,
The village on the highland seen from afar at sunset, the river between, ...

These became part of that child who went forth every day, and who now goes,
and will always go forth every day.

GENERAL ACTIVITIES

There are some activities we feel are so general in nature that we want to list them separately. They can be included at any time you feel them appropriate to your group. They can be adapted to fit the design of your particular classroom.

Bulletin Boards

The theme of "Working Together" is one that can be adapted in any direction. (the importance of working together in a classroom, in a school, in the community, in our world...).

Bulletin boards can be built around an individual program or you may wish to build a unit around a cluster of jobs that incorporate the individual worker on our program. For example, you may want to build a unit on medical workers that help us take care of our body. This would include a study of not only a dentist (one of the focuses on Working Together), but of a doctor, nurse, lab technician, orthopedic technician, etc.

Puppets

We will be utilizing a puppet as a "third teacher" on the programs. His name is Dan D. Lion. We suspect that his presence may motivate students to use puppets for expressing some of the things they're learning about the world of work. Below are a few different ways of making simple puppets.

Puppets can be made into various characters. It would be possible to develop a community of different workers using puppets. The children, in expressing themselves through the puppets, gradually may become more aware of the interdependence of people in a community.

Paper Cup
Decorate a paper cup in any way. Use a handkerchief around your hand and put your three middle fingers inside the can. Use thumb and little finger for the puppet arms.

Paper Bag
Trim a small paper bag with paper scraps, crayon, feathers, yarn, buttons, fabric, etc. to represent any character you would like. To make a talking puppet, draw or paste a mouth where the bag folds at the bottom. Insert hands and bend bag at the fold and move the flap.

Stuffed Paper Bag
Crush newspaper into the "head" of a paper sack. Tie with a string at the neck leaving an opening for the middle finger. Add features.

Shadow Puppet

(This might make an interesting culmination activity to a unit. Different workers could be presented as "mystery guests" with creators giving clues to what their line of work is.)

Materials: cardboard, thin sticks 6 to 10 inches long, scissors

Figures are cut out of the cardboard and glued on a stick. As kids develop their ability in using cutting tools, they can make more elaborate puppets by emphasizing features such as shaggy hair, etc. Holes cut in the figures can depict eyes, buttons or other things. The figures can be made to move by making several sections, joining them with paper fasteners and gluing on more than one stick. Because only the shadows of the figures will be used, there is no need to paint or color them in any way.

The success of the shadow puppet depends on how well it is used. A silk or nylon screen is set up in front of the audience and strong spotlights are beamed on the back of the screen. The operators sit behind the screen and manipulate the puppets by holding them close to the screen in the direct path of the light.

Mailing Tube

Using scraps of paper, put a face and clothes on a mailing tube. Arms can be made separately from wooden spoons or cardboard. Fasten a stick to the back of the tube to handle the puppet.

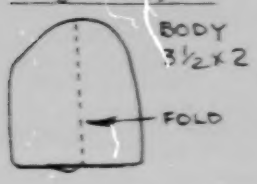
Wooden Spoon

Draw the face of a puppet on the round part of a wooden spoon. Use yarn or crepe for hair. Fasten a handkerchief, fabric or crepe paper around the neck of the spoon with a rubber band. Use a regular wooden spoon, tongue depressor or ice cream cup spoon.

Box Puppet

Use butter, margarine or cereal box.
Cut back and sides.
Cover with construction paper.
Use paper, crayons, yarn etc. to decorate the character.

Finger Puppets



Cut the basic shape from felt. Fold in half and sew or glue seam. Add features of felt, crayon, yarn, etc. This can be made into animals or people.

GENERAL ACTIVITIES Continued

Clustering Occupations for Unit Study

The Dictionary of Occupational Titles lists more than 20,000 individual jobs. Obviously it would be impossible to deal with each of these. The U.S. Office of Education has developed a cluster scheme which they believe encompasses all the jobs in the Dictionary of Occupational Titles. In other words, it should be possible to fit every job in the Dictionary into some one of the career clusters listed below. There are fifteen.

1. Construction Occupations
2. Manufacturing Occupations
3. Transportation Occupations
4. Agri-Business and Natural Resources Occupations
5. Marine Science Occupations
6. Environmental Occupations
7. Business and Office Occupations
8. Marketing and Distribution Occupations
9. Communications and Media Occupations
10. Hospitality and Recreation Occupations
11. Personal Service Occupations
12. Public Services Occupations
13. Health Occupations
14. Consumer and Homemaking Occupations
15. Fine Arts and Humanities Occupations

The programs in the series Working Together are being produced independently of one another. They are arranged, however, so that teachers may build a unit around different clusters of them.

e.g.
Programs one through eight deal primarily with occupations that are very close to a child's immediate community (home, school, food, the doctor).

Programs nine through twelve deal with the environment of the forest and with wood products (forest ranger, paper mill, doormaking, toymaker).

Programs thirteen through twenty-two deal with communication in our culture and the people involved in transmitting information to us.

Programs twenty-three through twenty-seven deal with transportation and its effect on our environment (state patrol, mechanic, fuel, boats).

Programs twenty-eight and twenty-nine deal with community services that have specific environmental implications (garbage and glass bottling).

Program thirty involves a culmination program including many factors from the first twenty-nine programs (restaurant).

GENERAL ACTIVITIES Continued

Booklets:

A set of three booklets about career awareness in the elementary grades is available from the Coordinating Council for Occupational Education. The vocational coordinator in your school district should have copies. If not, write to

CCOE
216 Old Capitol Building
Olympia, Washington 98501

Attention: Dean Wagaman

The booklets give a good overall look at career education and at programs presently incorporated into the elementary curriculum. They offer practical suggestions and activities of ways career education can be used at the different grade levels.

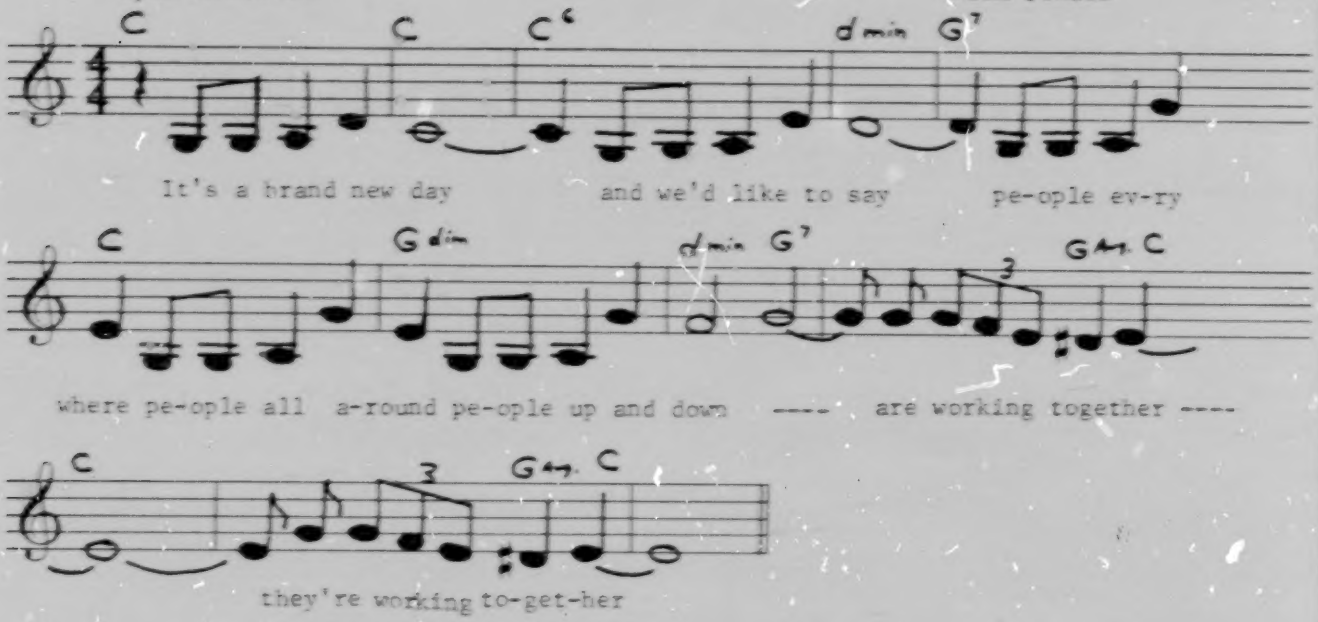
Instructional Materials

Frequently check your individual school district's instruction materials catalogue for films and other resources which relate to environmental concerns and career awareness. You should be able to coordinate these with many of the programs seen on Working Together.

WORKING TOGETHER

Words and music by
Lynn Severance

Arranged by
Norm Jensen



1. It's a brand new day (It's a brand new day)
   And we'd like to say (And we'd like to say)
   People everywhere, people all around, people up and down....
   Are working together.....they're working together.

2. And it's plain to see (And it's plain to see)
   Both for you and me (Both for you and me)
   In many different ways, yes we do depend on people to be friends.....
   Working together...(They're doing what?)...They're working together.

3. Problems we may find (Problems we may find)
   Ones that fuzz our mind (Ones that fuzz our mind)
   If we look we'll see, they won't get us down if people all around...
   Are working together...they're working together...working together...

NOTE: Students may wish to make up their own verses to the Working Together theme song as the year progresses.

LESSON 1: THERE'S NO PLACE LIKE HOME

CONCEPTS: Each student is a part of a family group and a particular life style.

Work can be interpreted in a variety of ways.

TOPIC: Family Relationships

FOCUS: Different Family Life Styles

LOCATION: Federal Way, Washington
Edmonds, Washington

BACKGROUND INFORMATION

Our introductory program for the series will focus on two different kinds of family life styles. We chose to begin this way because all students are part of a family group and each student has particular responsibilities as a member of a family group.

We will focus on a family consisting of a mother, father and two children and a family consisting of a divorced parent and her child. In showing how the members in each family group relate by working together, we hope each student will start to think about how he is an important member of his family group.

IMPORTANT ELEMENTS TO REMEMBER IN FOLLOW UP DISCUSSIONS.....

1. Each child's family should be considered unique in itself.

2. "Family" does not necessitate two parents in the home. "Family" is a feeling of security and acceptance and love, be it among the father, mother and child; mother and child; or father and child.

3. A life style develops as a result of all family members' working together in a way that they determine is the best way for them.

SUGGESTED ACTIVITIES FOR LESSON 1

1. ACTIVITY: Personal Scrapbooks

OBJECTIVE: Each student will create a booklet that will tell about his family.

MATERIALS: Construction paper for covers; paper for pages; crayons; pencils

PROCEDURE: These scrapbooks may grow over a period of time as different aspects of family interdependence are discussed.

Each book can include such items as drawings of the child, his house or apartment, the members of his family (parents, brothers and sisters, cousins, grandparents, aunts, uncles).

Extend items to include pets, family car, places they like to go, things they like to do, etc.

Label the different people and events in the child's presence so he can tell you who's who and what's what.

Let the child write his name on the cover. When completed he may want to take his scrapbook home or it may be handed out to his parents at the school's open house.

2. ACTIVITY: Awareness of Physical and Behavioral Growth

OBJECTIVE: Each student will list ways he has grown physically and behaviorally on a personal then and now chart. This listing could be done through illustration.

MATERIALS: Baby pictures of each child in the class (anywhere from very little to kindergarten age); large piece of construction paper or newsprint; crayons, pencils.

PROCEDURE: Put the baby pictures up on a bulletin board. Teacher should bring hers in too! If your class sits in rows or sections, you may want to post pictures in these kinds of clusters so that identification will be a bit easier.

Let the class try to match the pictures to the owners. When known give each picture back to its owner. It will become the illustration for the then side of his growth chart.

Before illustrations are made, discuss with the class the ways that they feel they have changed since they were very young. What are some of the things they can do now that they could not do then? How did they learn to do these things? Did other

2. PROCEDURE: Continued

people help them? In what ways did the development of their bodies play a part in their learning to take care of themselves? In what ways did their learning to talk and communicate help them grow? How have they learned about "right and wrong"? In what ways has this influenced their behavior? When the discussion has gotten across the ideas of ways we grow physically and behaviorally, let the students develop their own growth charts.

Pass out paper. Divide it in half or use both front and back. Put the baby picture on the THEN side and have each student illustrate the ways he behaved and the things he could do when he was that age. On the NOW side, have him show ways he has grown and how he acts differently at the present time.

LESSON 2: GETTING TOGETHER

CONCEPTS: Many people contribute to the effectiveness of learning situations in an elementary school.

Students are part of a team of workers that should function interdependently.

TOPIC: School Family

FOCUS: Team Work of School Staff and Students

LOCATION: Beacon Hill Elementary
Seattle, Washington

BACKGROUND INFORMATION

Our reasons for exploring the interrelationships of people at an elementary school are very simple.

1. School is an obvious part of the student's life.

2. Students can realize that they are a part of a team of workers and that they have responsibilities for their own learning.

3. A variety of workers contribute to the make up of a school staff.

We have chosen to focus on one school in the hopes of motivating the students' interest in finding out how their school is organized. Different school districts and different buildings within school districts are organized in different ways. But they all should have staffs and students that are working together to make learning experiences exciting for all concerned.

BEACON HILL ELEMENTARY

The staff and students of Beacon Hill Elementary moved from their old building into a new facility in March of 1971. It is a spacious school designed with the open concept format of teaching in mind. The "classrooms" are actually open units with sections where groups of students can meet with one of their team teachers or where teachers can meet and work with students individually. In the center of the building, in easy access to all the students, is the Library Resources Center.

Student Body

There are approximately four hundred students at Beacon Hill Elementary. They represent a variety of racial backgrounds including Caucasian, Negro, Japanese, Chinese, Filipino and Indian children.

LESSON 2: GETTING TOGETHER Continued

Staff

Ralph Schreiner is the principal of Beacon Hill Elementary. His staff includes:

13 "classroom" teachers
one physical education teacher
one librarian who is also the media specialist
one secretary
one day custodian
one night custodian
one nurse who visits the school one and one-half days a week
two teacher aides
one instructional assistant
one teacher intern
one food service employee
one instrumental teacher who visits the school once a week

The teachers are organized into teams. This involves them in a working situation where they must plan together and set up the structure for their own unit.

Team A has three teachers working with first and second graders.
Team B has three teachers working with second and third graders.
Team C has four teachers working with fourth and fifth graders.
Team D has three teachers working with fifth and sixth graders.

The teachers decide among themselves who teaches which subject.

Lunch

The lunches served at Beacon Hill are prepared and packaged at Roosevelt High School and delivered to the school. Before lunch time they are heated and then served to the students within their units. The lunch includes a hot pack and a cold pack and milk.

Custodians

Beacon Hill has many new conveniences. Among these are a fully carpeted facility (with the exception of the custodian's room and the lavatories)and an automatic gas fired furnace.

With these conveniences, custodians are responsible for vacuumming and making sure that the furnaces are operating properly. Their other duties are much the same as those of custodians in other buildings. They see to it that the actual physical plant is kept clean and attractive.

SUGGESTED ACTIVITIES FOR LESSON 2

ACTIVITY: Interviewing to Get Information

OBJECTIVE: Each student will be a part of a group to interview a school worker and report back the findings to the class.

MATERIALS: Let the group decide the way they want to communicate their findings. This may be through drawings, oral reports, inviting the worker to talk to the class, creative drama, etc.

PROCEDURE: The teacher should alert the different staff members what is to happen so they will be expecting the students to come and will be positive in their reaction to them.

With the students, list the different school workers on the chalkboard. Include everybody, if possible. (teacher, principal, secretary, bus driver, custodian, librarian, aides, food service personnel, safety patrol)

Divide the group into committees of three or four students with the purpose of finding out what each one of these workers does to help the school operate. With students, compose a list of questions that will get the information they want.

The teacher may want to play "secretary" to the group as they go to each worker or take along a tape recorder that the students can play back later when they are getting their report ready for the class.

Working with one group each day, have them plan a way that they will contact the person, set up a time to go and talk with him and then follow through on that plan. After the interview, let the committee work on the way they will communicate their findings. After all interviews are complete, or as each interview is completed, let the committee deliver their reports.

LESSON 3: TO MARKET! TO MARKET!

CONCEPTS: The produce manager is responsible for making fresh produce available to supermarket customers.

Fresh vegetables and fresh fruits are an important part of our daily diet.

TOPIC: Community Food Service

FOCUS: Produce Department Manager-Trainer, Homer Millspah

LOCATION: Albertsons Grocery Store
Bellevue, Washington

BACKGROUND INFORMATION

WHERE DOES A PRODUCE MANAGER GET THE FRUITS AND VEGETABLES FOR HIS DEPARTMENT?

Most of the produce which Albertsons buys is brought in from California and parts of Washington, depending upon the items that are in season. The produce is shipped to Albertsons' produce distribution center. Here it is sorted. Each neighborhood store submits orders that are filled by people who work day and night at the center.

Trucks deliver produce to the managers of neighborhood stores as needed which is usually three times each week.

WHAT ARE THE STEPS WHICH THE PRODUCE MANAGER TAKES AFTER HE RECEIVES THE SHIPMENT?

Perishables are immediately put into a large cooler. The cooler is similar to a refrigerator, and the motion of fans has a tendency to withdraw moisture from the produce. The manager must keep water on the fruits and vegetables at all times to insure their freshness.

The fifty boxes of lettuce that Homer Millspah receives each week are only a small part of the produce which needs to be trimmed and prepared for display. Incidentally, fifty boxes of lettuce means 1200 heads of lettuce each week!

Homer washes and trims the lettuce, celery, radishes, cucumbers, etc. in an area of the store. He immediately returns the prepared produce to the cooler where it stays until it needs to be put into the display cases to be sold.

Even when the food is displayed the men must water the produce every half hour to keep it the fresh product we want to purchase.

BACKGROUND INFORMATION Continued

The ordering must be done by Homer one day before it is delivered to him. It takes many months of practice to "guess" just how much of each item the store will sell. Homer has been working in produce for fourteen years so he has the vital experience which tells him what items sell best on weekends, on weekdays, in certain months and during sales.

WHO MAKES DECISIONS CONCERNING ADVERTISED SPECIALS?

Produce Supervisors set the price of items to be on special at all stores in the area according to the availability of the item.

HOW DOES SOMEONE BECOME A PRODUCE MANAGER?

Potential managers go through a training period under the direction of the Produce Trainer. Homer Millspah is the Albertsons trainer for the Puget Sound area. The "second man" or trainee works with Homer to learn many ways of organizing jobs that must be done.

The trainer gives tips on ways to display produce which are eye appealing, to prepare the food and to decide how much food should be ordered. The trainee will gradually take on more and more responsibility under careful supervision of the trainer.

The length of training is left to the discretion of the trainer. Time varies from three months to a year, depending upon past experience and present performance of the trainee.

When the trainee is ready he will be assigned to a neighborhood Albertsons store and employed as a produce manager.

SUGGESTED ACTIVITIES FOR LESSON 3

1. ACTIVITY: "Produce Lunch "

   OBJECTIVE: The children will see, taste, smell and feel several types of produce.

   MATERIALS: Produce--Suggest those which are familiar to the children as well as less popular: eggplant, artichokes, cabbage, lettuce, turnips, carrots, bananas, radishes...

   PROCEDURE: After the children have seen each whole item, divide each piece of produce into small portions. Give children the opportunity to discuss the texture, taste and smell of the produce. Which did they like? Did they think they would like it before tasting it?

2. ACTIVITY: Make a Produce Book

   OBJECTIVE: Each child will identify several fruits and vegetables in the produce department.

   MATERIALS: Construction paper, scissors, paste, writing paper, crayons

   PROCEDURE: Have the children draw pictures of different produce they have seen or know about. Put them into a booklet. A writing lesson can be incorporated.

3. ACTIVITY: Experiment

   OBJECTIVE: The student will find out if food spoils faster when bruised or when food is protected. Implications: Be careful when handling produce.

   MATERIALS: At least two identical pieces of produce. (i.e. apples)

   PROCEDURE: Keep one piece of produce in a place where it won't be handled. Let the children pinch, bang, poke one piece of produce. Let the produce sit. Make a daily log about progression of the experiment. Have the children discuss how this applies to how we chose fruit in the supermarket.

4. ACTIVITY: Cutting Pictures Of Produce From Magazines And Mounting Them

   OBJECTIVE: Grouping produce into categories.

   MATERIALS: Old magazines, scissors, paste, paper

SUGGESTED ACTIVITIES FOR LESSON 3 Continued

4. Continued

PROCEDURE: Have the children group produce into some of the following categories: salad group; fruit group, citrus fruits; greens; orange foods; vegetables...

5. ACTIVITY: Weighing

OBJECTIVE: To give children exposure to a scale.

MATERIALS: Things to be weighed, scale

PROCEDURE: Children experiment to find which things are heaviest, lightest and to see the relationship between numbers and weight.

*A HELPFUL LIST OF PRODUCE ITEMS

Vegetables		Fruits	
Artichokes	Parsnips	Apples	Oranges
Asparagus	Peas	Avocados	Peaches
Beans, Green	Peppers	Apricots	Pears
Beets	Potatoes	Bananas	Papayas
Cabbage	Potatoes, Sweet	Berries, Straw	Pineapples
Brussels Sprouts	Yams	Berries, Rasp	Persimmons
Broccoli	Radishes	Cherries	Plums
Carrots	Rhubarb	Coconuts	Raisins
Cauliflower	Rutabagas	Cranberries	Peanuts
Celery	Squash	Dates	Pecans
Corn	Spinach	Grapefruit	Walnuts
Cucumbers	Salad	Grapes	Filberts
Egg Plant	Bean Sprouts	Lemons	Brazils
Garlic	Tomatoes	Limes	Almonds
Lettuce	Turnips	Cantaloupes	Mixed Nuts
Onions	Watercress	Watermelon	Pomegranate
Parsley		Mushrooms	Tangelos
		Nectarines	Tangerines

LESSON 4: YOUR PET'S PAL

CONCEPTS: Some veterinarians concern themselves with the health and comfort of various pet animals.

Pet owners have a responsibility for the care and health of their animals.

TOPIC: Medicine

FOCUS: Dr. E. Doyle Montgomery, Veterinarian

LOCATION: Five Corners Veterinary Hospital
Seattle, Washington

BACKGROUND INFORMATION

WHAT KIND OF TRAINING DOES A VETERINARIAN NEED?

Veterinary medicine has its own system of education, licensing, and organization, and adheres to a strict code of ethics. There are eighteen colleges of veterinary medicine in the United States and three in Canada. Most are associated with a public university. Collectively they graduate approximately 1,150 veterinarians each year.

All veterinary schools require a minimum of two years of pre-vet college study for entrance and four additional years of professional study for graduation. Veterinary students devote some 5,000 class hours, including clinical experience, to such subjects as anatomy, physiology, pharmecology, pathology, microbiology, biochemistry, surgery, medicine, public health, preventive medicine, and parasitology.

WHAT DOES A VETERINARIAN IN SMALL PRACTICE DO?

Approximately 30 million families in the United States own either one or more dogs or one or more cats, or both. A veterinarian involved in small practice (a term which means that he specializes in the care of small animals as opposed to a vet in large practice who specializes in working with cattle, hogs, sheep, horses, etc.) can be a friend indeed!

Dr. E. Doyle Montgomery is a fine example of a vet in small practice. Dr. Montgomery finds that most of his patients are dogs and cats of many varieties. During his years of practice at the Five Corners Veterinary Hospital, which began in 1963, there have been other animals brought to him for medical attention. These include rabbits, gerbils, a few birds, an iguana, a raccoon, a duck, and a boa constrictor that belonged to a dancer.

LESSON 4: BACKGROUND INFORMATION Continued

Dr. Montgomery takes a personal interest in all his patients. He depends on the animal's owner to give him most of the initial information about what ails his patient. Animals have their own way of communicating and Dr. Montgomery is sensitive to this, but owners must be honest in what they relate.

WHAT KIND OF PLACE IS A VETERINARY HOSPITAL?

The first person to greet Dr. Montgomery's patients when they come in is his receptionist. The owner will have made an appointment so the receptionist will be expecting him. She takes the animal and tells the owner when to return.

There are many different areas in the Five Corners Veterinary Hospital. A sterile surgery room requires that Dr. Montgomery and a technical assistant put on a mask and cap and gown to perform surgery relating to abdominal or intestinal difficulties. This is also the room where spaying or hysterectomies take place.

Examinations, wound cleaning and tonsilectomies are performed in the general treatment room. X-rays are also taken in this room. Splints and braces are made. Lab work such as urine and blood examinations, blood counts and bacterial tests for ear or urine infections are done in this room. Other special equipment is kept in this room. An ultra-sonic dental cleaner removes tartar that builds up on animals' teeth. There is a "holding cage" where an animal can wait for examination. This unit also serves as an oxygen therapy cage for pre- and post-surgery care. It may also serve as a puppy incubator.

There are three areas in the hospital where animals are housed during their stay. One area is an isolation area for animals that may need to be away from other animals until they are diagnosed or until they are cured. Another area is a general care area with facilities for animals to be comfortably caged, cared for and bathed if necessary. A semi-outdoor area has larger caged facilities which give larger dogs room to move.

Dr. Montgomery and the other two veterinarians in practice at Five Corners Hospital have a library/lounge area. A veterinarian needs to spend many hours keeping up on professional writings and new methods of treatment. There are reference books in the library that are handy for the doctors to check on information they may need.

WHAT OTHER WORKERS ASSIST DR. MONTGOMERY?

There are two other veterinarians at the hospital. Also, there is a lab technician and a receptionist.

Five part-time employees provide "kennel help" which involves feeding the animals. There is a janitor. There is also a person responsible for cleaning the animals. Some college students work as part-time employees during their school year. This gives them a chance to be a part of and to observe the real world of the veterinarian. This helps displace the "glamor image" with the realistic day-by-day hard work and involvement it takes to be in this field of medicine.

LESSON 4: BACKGROUND INFORMATION Continued

IN WHAT OTHER AREAS WILL A VETERINARIAN WORK?

1. A veterinarian working for the Department of Agriculture will inspect and quarantine livestock and poultry entering and leaving the United States.

2. Veterinarians in the U.S. military forces assure the safety of meat and dairy products consumed by our armed forces. They safeguard the health of animals used by our troops.

3. Veterinarians have worked closely with scientists and physicians in the manned space program.

4. Veterinarians are in charge of the health of zoo animals.

5. In working with animals, many veterinarians have been responsible for ways being discovered for control of diseases communicable to man.

6. Many veterinarians work in combating diseases of farm animals and poultry, making these products safe for our consumption.

7. Veterinarians carry on inspection of milk and dairy products.

8. There are veterinarians in the meat inspection branch of the federal government and in private industry.

9. Many veterinarians work in universities teaching young men and women who are becoming veterinarians.

SUGGESTED ACTIVITIES FOR LESSON 4

1. ACTIVITY: Class Discussion, Drawing

   OBJECTIVE: Student will show by drawing or writing one way he would care for a pet.

   MATERIALS: Attentive listeners
   Paper, pencil, crayons, paint, etc.

   PROCEDURE: Lead a discussion of why people have pets. Include discussion of large and small animals. What are some of the ways that the children take care of their pets? Let them discuss their responsibilities and what would happen if they did not care for their pets properly. Let students express themselves either by drawing or writing or both.

2. ACTIVITY: Padded Paper Animals

   OBJECTIVE: Each student will create a large image of his pet or the pet he would like to have.

   MATERIALS: Wallpaper, cellophane, wrapping paper or construction paper
   Stuffing (crumpled paper, cloth, cotton, paper towels, old nylons, or excelsior)
   Glue or staples or tape
   Items for decorating and making features

   PROCEDURE: These animals can be made large to be hung from the ceiling!! Tell the youngsters they are to create their pet (or a pet they would like to have). They can make him life-size (within reason!).

   Have the youngsters draw the basic shape and cut two identical pieces of that shape. Join edges by gluing, stapling or taping, remembering to leave a small opening where stuffing can be inserted. If glued, let dry.

   Stuff with whatever material you have chosen.

   Use paint, marking pens, yarn, feathers, fur, burlap, buttons, or any other scraps to enrich the surface texture and create features. Hang from the ceiling with strong yarn above the creator's desk.

3. ACTIVITY: Classification

   OBJECTIVE: Each student will contribute an idea to the chart listing animals and classifying them as to their potential as pets.

SUGGESTED ACTIVITIES FOR LESSON 4 Continued

3. MATERIALS: Pictures of a variety of animals including wild, tame, large and small
Tagboard cards and material for a chart

PROCEDURE: Begin a discussion of the many different kinds of animals that exist in our world. Use pictures to supplement the talk. Draw additional ideas from the students. Write down the names of the animals on a tagboard card. When the list is a relatively good size, tell the students that you would like them to help you make a special chart. The chart will classify animals according to whether or not they would make a good pet.

The decisions should be made on the basis of the students' abilities to take care of the animals, furnishing them with all their needs. Include in the discussion the factor of natural versus unnatural environment. Some animals cannot survive out of their natural habitat.

Let students help place animal names in the proper classification spots.

4. ACTIVITY: Class Discussion, Illustrations

OBJECTIVE: Each student will draw three examples of ways veterinarians work other than being involved with pet animals.

MATERIALS: Pictures
Drawing or painting materials

PROCEDURE: If possible, get pictures which illustrate the various fields that veterinarians work in besides the general practice field.

Discuss a variety of them with the students.

Have students illustrate the ones that appeal to them.

LESSON 5: PUT ON A HAPPY FACE!

CONCEPTS: A dentist is a doctor specifically trained to care for people's teeth.

If young children can be trained in proper dental practices, dental problems can be decreased and, in many cases, prevented.

TOPIC: Medicine

FOCUS: Dr. Robert Allen, dentist

LOCATION: Northgate Plaza
Seattle, Washington

BACKGROUND INFORMATION

WHAT DOES A DENTIST DO?

A dentist in general practice in a private office spends his work day examining and treating his patients. His patients vary in age, and there are a variety of problems that they bring to him.

There are basically three areas with which a dentist concerns himself when he is in general practice. Within these three areas there are a variety of skills that the dentist uses in caring for his patients.

Prevention Every person should try and see his dentist at least twice a year for a check up. Hopefully, this will allow the dentist to see how effective personal dental care has been and allow him time to examine his patient's teeth to be sure that no cavities have started to develop. At this time a hygienist can professionally clean the patient's teeth.

Restoration Once decay starts in a tooth, it will progress until something is done about it. A decayed tooth does not heal itself as do many other parts of the body. The dentist will remove all the involved decay and fill the cavity or insert some other restoration. This means he will replace part of a tooth or an entire tooth by artificial means. Unfortunately, most of a dentist's time is spent on restoration.

Surgery A good dentist will do everything within his skill to save a tooth. But there are times when an extraction is the only alternative. Extraction of a tooth is a surgical process that requires (under normal conditions) a local anesthetic and sterilized extraction instruments.

During dental college, a dentist will learn how to do most of the laboratory work necessary. Heavy, time-consuming lab work is sent out to a dental lab; but a dentist will make accurate impressions and will pour models or casts in his own small lab in his office area.

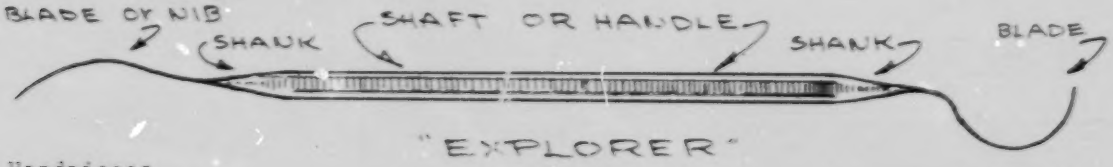
WHAT KIND OF EQUIPMENT IS FOUND IN A DENTIST OFFICE?

The equipment in a dental office is designed and engineered to meet the demands of dental treatment in a very efficient way. Equipment is arranged so that it is in easy reach of the dentist and his assistant when they are working on a patient. The dental chair and dental unit usually take up the bulk of the room. But also visible is other scientific equipment such as an X-ray machine, a special light fixture, instrument cabinet and a sterilizer. The equipment may look simple, but out of sight and behind panels you will find metal pipes for water, air, gas and electricity. There are special controls, valves, gauges, wires, fuses and rubber hoses.

Dental Chair
The dental chair is designed to make the patient as comfortable as possible and also make it easy for the dentist and his assistant to reach the patient's mouth. The chair has controls that allow it to be raised, lowered and tilted back. Some dental chairs have a place where the dentist and assistant can hook on a chair so they can sit beside the patient.

Dental Mirror
The small round dental mirror is used to observe surfaces of teeth that are not in the dentist's direct line of vision. It can reflect light onto dark areas.

Hand-held Steel Instruments
These long narrow instruments have three parts. The handle is long and hexagonal to prevent slipping. The blade is the sharp end, if the instrument is used for cutting. If not, the working end is called the nib. The shank is the part which connects the handle and blade or nib.



Handpieces
This is the term given to the instrument attached to the "wrist" of an extension arm. There are a variety of cutting, drilling and grinding devices that can be gripped by the dentist's handpiece. Burs rapidly remove tooth structure and prepare a cavity space for filling. Stones are small grinding wheels that contain some abrasive. Discs are used for polishing teeth to a fine finish.

Air and Water Syringe
When a handpiece is used with a grinding or cutting attachment it can rotate anywhere between 300,000 to half a million revolutions per minute. The heat of the friction this action causes requires the use of a pressurized stream of water mixed with air to be constantly directed against the gums and tooth.

Saliva Ejector
This suction device draws out saliva and other fluids from the mouth. An aspirator is a fast working, high speed saliva ejector used so a patient does not have to sit up to rinse his mouth.

Dental Syringe
This is an instrument used to inject local anesthetic into the gums.

Amalgamator
Amalgam is an alloy of mercury and other metals. This is the "silver filling". Mercury must be mixed with a powdered silver-tin alloy to form a soft, pasty mass. An amalgamator is a small machine which mixes the amalgam very precisely and quickly.

X-ray Machine
An X-ray picture of a person's teeth can tell a dentist many things. It can give clues as to the origin of a toothache. It can uncover tiny beginning cavities that are not observable in ordinary examination. It can show new decay that may be developing beneath old fillings. It can show an abscessed or impacted tooth.

Autoclave
This is an electric steam sterilizer. It kills all bacteria on instruments.

Lights
Since a dentist is working in an extremely small area of a person's mouth, it is extremely important that he have an intense light but one that is not too bright or too hot. The dentist light that is located above the dental chair can usually be adjusted to go in many positions.

WHAT KIND OF TRAINING DOES A DENTIST NEED?

To become a dentist, a man or woman must attend a dental school for four years. To enter dental school it is necessary to have at least two years of pre-dental education in a college. Candidates applying to a dental school must take a Dental Aptitude Test. Many dental students have received bachelor's degrees before entering dental school.

Dental school lasts for four years. Training involves classroom sessions plus laboratory work. When a dental student is in his or her third and fourth year, he will work in a supervised clinic on patients.

A dentist's training does not stop after he has become a doctor. A conscientious dentist is always learning either through workshops, through reading the journals that come out monthly that deal not only with the dental field but with other medical findings, through study clubs that may be a part of the Dental Society or through additional college courses.

HOW CAN A DENTIST BECOME A SPECIALIST?

After a dentist has been practicing for a few years, he may decide that he wants to specialize in one field or phase of dentistry. This will require that he go back to dental school to become more efficient in his area of interest.

Pedodontist	specializes in children's dentistry.
Orthodontist	specializes in straightening teeth that are not aligned properly.
Periodontist	specializes in the tissues that support the teeth.
Endodontist	specializes in the inner tooth cells.
Oral Surgeon	specializes in the extraction of teeth.

WHO ARE THE WORKERS THAT ASSIST THE DENTIST IN HIS OFFICE?

Dr. Bob Allen has two people who assist him in his office and are an invaluable part of the dental team. Sandi is his receptionist and bookkeeper. She takes the telephone calls coming in, keeps track of the time schedule and makes appointments for patients. Dr. Allen writes down the fee charge on his patients' charts after he has completed work on them, but Sandi is in charge of sending out the bills. She answers questions about insurance, orders supplies, is qualified to assist at the chairside if needed, seats patients and prepares them for Dr. Allen. She also is adept at being a "nursemaid" and has soothed a few fears and tears of young ones during their visits.

Tricia is Dr. Allen's chair-side assistant. Her most valuable asset as an assistant is her ability to "think along with Dr. Allen". They must be on the same wave length, and Tricia has to be alert to what instruments he may want or what materials he may be needing to fill a cavity. Tricia takes x-rays, does lab work, pours models, rolls gold foil, keeps up the supplies, sterilizes the equipment, wraps surgical instruments, sends heavy lab work out, prepares morning trays at the end of the day and closes up the office at night.

SUGGESTED ACTIVITIES FOR LESSON 5

1. ACTIVITY: Development of a "Put On A Happy Face Booklet"

   OBJECTIVE: Each student will have the opportunity to list the three things necessary for dental decay to take place. (teeth, food, bacteria)

   MATERIALS: Booklet materials: paper, pencil, crayons
   Model of teeth or drawing of teeth
   Simple diagram of bacteria
   Assortment of sweet and starchy foods

   PROCEDURE: Use visual aids to get across these facts.

   1. Few people have teeth that are not susceptible to decay.

   2. Plaque (plak) is a thin layer of film containing tiny particles of food. As plaque accumulates on tooth enamel it becomes the food and breeding ground for bacteria. Especially in areas that are not easily cleaned by rinsing or brushing, plaque will develop on tooth areas.

      Although all the bacteria in a person's mouth is not harmful, there is one type of bacteria that feeds on carbohydrates (especially sugar and starches). As this bacteria gives off enzymes, the surrounding food particles become soluble and are absorbed into the cell body of the bacteria. In this process, acids produced eat away at the tooth enamel. The bacteria that can enter these openings feeds on food particles. All this happens within minutes after a person has eaten.

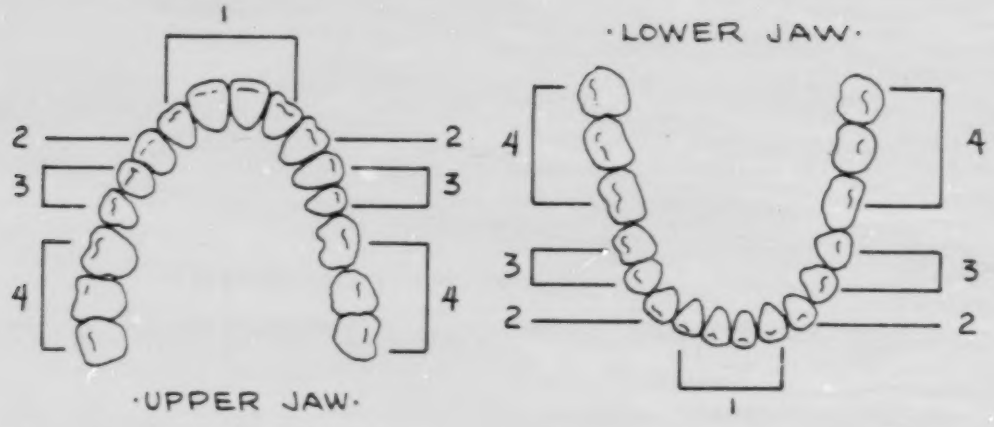
2. ACTIVITY: Development of a "Put On A Happy Face Booklet"

   OBJECTIVE: Each student will be able to name the kinds of teeth and their purposes.

   MATERIALS: Model of teeth or drawing of teeth
   Ditto sheet of teeth for each student to refer to
   Tagboard or chalkboard where terms can be written

SUGGESTED ACTIVITIES FOR LESSON 5 Continued

2. MATERIALS Continued



PROCEDURE: Discuss the difference between primary teeth (twenty teeth) and permanent teeth (thirty-two teeth including four wisdom teeth).

1. Incisors are sharp cutting teeth located in the front of the mouth. Four are found in the middle of the upper jaw and four smaller ones in the lower jaw. These are used for cutting food.

2. There are four canine or cuspid teeth, one on each side of the incisors in each jaw. They are used for tearing food.

3. There are two premolars or bicuspids in each of the jaws located between the canines and the molars. They are used for crushing food.

4. There are twelve permanent molars, three located in the rear of each side of the jaws. The molars located farthest in the rear do not come in until a person is between eighteen and twenty-five years old and are called wisdom teeth. Molars have broad surfaces and are used for grinding food.

3. ACTIVITY: Development of a "Put On A Happy Face Booklet"

OBJECTIVE: Each student will illustrate three ways that he can care for his teeth.

MATERIALS: Teacher-made charts and posters, illustrative pictures
Toothbrush, dental floss

3. PROCEDURE: After students have become aware of what causes dental decay, guide them to understand the importance of making preventive measures a habit.

The chief reason for brushing teeth is to clean the teeth and gums. In the process, the circulation in the gums is also stimulated. Dental floss is also an important aid in helping to remove food particles between the teeth. It should be used carefully. When it is not possible to brush teeth immediately after eating, stress the importance of at least rinsing the mouth out with water.

Fibrous foods such as celery, apples and carrots scrape the teeth and gums when chewed and eaten. This is not a substitute for brushing, but may help remove large particles of more chewy food products. Sweet foods produce acid in the mouth, and soft drinks and slow-dissolving candy stay within the mouth and coat the teeth.

Eating a balanced diet to maintain proper health for the entire body is an important factor in preventing dental problems.

LESSON 6: WHEAT'S NEAT TO EAT

CONCEPTS: Wheat is the grain used to make flour.

Wheat farmers depend on weather to produce a plentiful crop yield.

Machines are used to enable a farmer to harvest many acres of land.

TOPIC: Grain Harvesting

FOCUS: Combine Operator

LOCATION: La crosse, Washington

BACKGROUND INFORMATION

WHAT IS A COMBINE AND WHAT DOES IT DO?

A combine is a farm machine that moves across wheat fields. The combine threshes the seed from the stalks of straw, collects the seed into a tank or sacks, and leaves the straw lying on the ground.

WHEN IS THE WHEAT HARVESTED?

Weather determines the "when" of harvesting but usually the wheat becomes dry and hard and ready for harvest around the first of August.

WHAT DOES THE WHEAT FARMER DO DURING THE REST OF THE YEAR?

In the fall the farmer will plant the seeds. Once they are planted there is not a great deal the farmer can do for his crop. While the wheat is growing, the busy farmer usually finds time to repair and service his equipment in preparation for the harvest season.

The wheat grows about six inches before the snow falls. The snow acts as a blanket to keep the cold from the winter wheat. During the early spring small airplanes are in the sky spreading the young wheat with fertilizer. While the

BACKGROUND INFORMATION Continued

wheat continues to grow during the spring and into the summer, the farmer is busy spraying for weeds. This is usually done by dry spraying with a ground sprayer.

ARE THERE ANY CONTROLS ENFORCED UPON THE WHEAT FARMER?

Yes. The government has a department called the Department of Agriculture Stabilization and Conservation which through studies sets limits upon the area to be farmed. These regulations deal with how much land the farmer may farm each year, crop rotation and other items which effect the environment.

WHERE DOES THE WHEAT GO AFTER IT IS HARVESTED?

The wheat is stored in grain elevators until it is sold to local commercial warehouses. Local people may purchase grain for their own use from the commercial warehouses. The wheat is held there until dealers offer a price which is agreed upon. The dealer is responsible for transporting his own wheat. This is done via truck or railroad. The wheat may go to many different parts of the United States or it may be sent overseas. Wheat goes through a grain inspection before it is sent out. This is done by members of the Department of Agriculture.

HOW IS WHEAT USED?

Most of the wheat is ground into flour which we use in bread, rolls, buns, cookies, cakes, pies and other baked goods. The children will be interested to know that it is used in many of their breakfast foods as well as in macaroni products. Bran and other parts of wheat left over from the milling of white flour are used in livestock and poultry feeds.

SUGGESTED ACTIVITIES FOR LESSON 6

1. ACTIVITY: Observation and Discussion

   OBJECTIVE: Each child will find the wheat kernels in a piece of whole wheat bread and tell why he cannot see the wheat in white bread.

   MATERIALS: Whole wheat bread and white bread

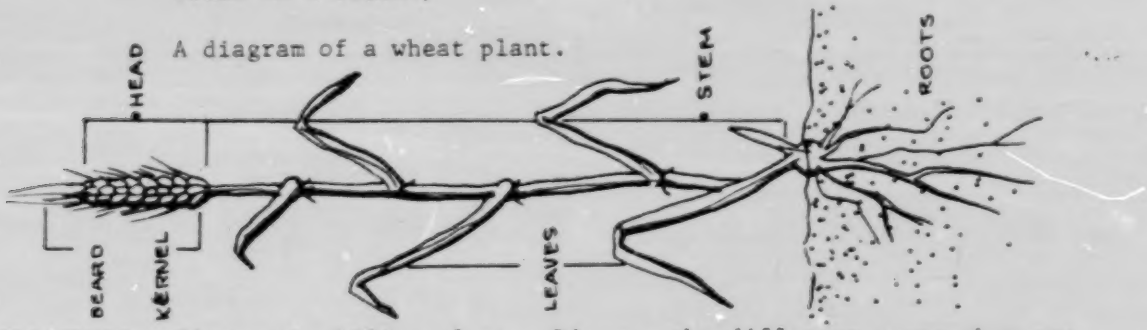
   PROCEDURE: Give the children a piece of white bread and whole wheat bread. Compare the two. Both are made from wheat. Can you find the wheat? Why can't you find the wheat in the white bread? (It has been ground into flour.)

2. ACTIVITY: Observation

   OBJECTIVE: Each child will tell the similarities and differences between a wheat plant and an oat or grass plant.

   MATERIALS: A flowering grass plant or an oat plant (These can usually be found in a field.)

   A diagram of a wheat plant.



   PROCEDURE: Give each child a plant. Discuss the different parts that are found on the plant. Take a look at the diagram of the wheat plant. What similarities can you discover?

3. ACTIVITY: Observation

   OBJECTIVE: Each child will taste, smell, feel and see a wheat kernel.

   MATERIALS: Wheat (This can be found in many grocery stores and in all health food stores.)

   PROCEDURE: Give each child a small pile of wheat. Have them use their senses to perceive just what a kernel of wheat is.

LESSON 7: FLOUR POWER

CONCEPTS: Flour is an important nutritional element in many of the foods we eat.

Flour is made from wheat.

A baker is responsible for making food goods that can be sold to customers.

TOPIC: Community Food Services

FOCUS: Marion Slys, Baker

LOCATION: Bauer Bakery
Poulsbo, Washington

BACKGROUND INFORMATION

WHERE DOES A BAKER GET HIS SUPPLIES?

Supplies are purchased from a wholesaler. There are bakery supply houses where most items can be purchased. These include such things as shortening, jams, jellies, raisins and dates. Either a bakery supply house or a paper supplier will have boxes, bags of different sizes and tissue paper in stock. Flour is purchased most often from a flour supplier.

HOW DOES A PERSON BECOME A BAKER?

Marion Slys started working in a bakery when he was fourteen years old and gradually learned many different aspects of the trade. He's been in the business for almost 25 years now.

In May of 1966 he left the bakery he had in Bellingham, Washington and moved with his wife and six children to Poulsbo, Washington where he had invested in a bakery. In six years it has become a landmark in that town, mostly due to Marion's skill and hard work. In the spring of 1972, Marion opened another bakery in Silverdale, Washington that is being managed by his oldest daughter.

Just as Marion was trained when he was young, he, too, is in the process of training others in the bakery trade. Some of these people are his own children who help with baking, cake decorating and selling. Marion's wife helps out occasionally with bookkeeping chores and the never-ending chore of laundering.

HOW DOES A BAKER KNOW WHAT TO MAKE?

A baker builds up a line of goods. He has certain recipes or formulas that he tries. If he likes the way they turn out and finds that his customers do too, he keeps preparing these items. Marion Slys often will adapt recipes or create his own. At times he will use a "conversion chart" which helps him convert

BACKGROUND INFORMATION Continued

a kitchen recipe to a bakery formula that will make a huge quantity of a particular item. Marion has also developed a unique recipe that only he prepares. It is a low protein bread made up for kidney patients, a gluten-free flour product. About 600 loaves are made a month and sent all over the United States.

WHAT KINDS OF TOOLS DOES A BAKER NEED?

The tools that Marion and his staff use in preparing their baked items are similar to those used in a home kitchen, only they are built on a larger scale because they are working with larger quantities. Bread pans and cookie sheets are a basic size, but there are hundreds of them. Ovens are larger to accommodate large batches cooking at one time. Mixers and mixing bowls are extremely large to accommodate pounds of dough at one time. Besides regular rolling pins, Marion also has a machine that automatically flattens out dough.

WHAT HOURS WILL A BAKER WORK?

Two boys that Marion is training work in the early morning hours. Tim arrives at 1:00 a.m. and is responsible for mixing the doughnut dough, cutting the doughnuts and preparing the pastry dough. Mike arrives at 4:00 a.m. and mixes bread dough and the bun dough for cinnamon rolls, hot dog buns and hamburger buns. Marion arrives at 7:00 a.m. He helps make up bread and bun dough, cookies, cakes, Danish goods and the bakery's famous cheesecake. He also specializes in icing and decorating cakes. His week-end hours are the busiest and often he is at work as late as 11:00 p.m. and midnight. Cake preparation and decoration is especially abundant on week ends.

WHAT OTHER WORKERS ARE NEEDED IN A BAKERY?

Besides an owner who is generally the main baker, there are other staff members who perform some of the preparation and baking duties. There are salesgirls who wait on customers and refill the showcases when they get low on items. They are also responsible for keeping the front part of the shop clean, especially the showcases. Marion has a custodian who works four hours a day and all day Saturday cleaning the back section of the bakery. Every two weeks a professional cleaning service comes in to clean the floors.

SUGGESTED ACTIVITIES FOR LESSON 7

1. ACTIVITY: Collage Design

   OBJECTIVE: Each student will contribute a picture of something baked to make a collage of baked goods.

   MATERIALS: Magazines, scissors, glue, butcher paper

   PROCEDURE: Discuss the kinds of items one might purchase in a bakery. You may want to distinguish between a small family-owned bakery (such as that shown on the program) and a large bakery that prepares items for the chain supermarkets. Set about to create a large collage of baked goods...pictures to drool by!

   Discuss that a collage is a giant picture made up of smaller ones. In designing it, the individual pictures should be cut carefully so that they will all fit smoothly as if in a puzzle.

   Then have students look through magazines for a variety of items that represent baked goods. Cut them out carefully. You may want to select a committee to arrange and glue the items into the collage. Display finished product on the bulletin board or in a special section of the room.

2. ACTIVITY: Preparing Something to Bake

   OBJECTIVE: Each student will contribute to the preparation of the selected item.

   MATERIALS: Ingredients for an item that you may want to choose. The type will depend on the cooking facilities your building has or the kind of parent co-operation you can get to "cook up" the items the class has prepared. Suggestions: cookies, cake, bread, fudge

   PROCEDURE: You may choose a variety of recipes that would be feasible for students to help prepare and then let them choose the one they would like to work on as a team. Have them pay attention to the amount of ingredients which will have to be increased if a large quantity is prepared. Let them calculate how this will be done. You may want to divide the class into teams - those who will calculate the changes in the recipe, those who will contribute the ingredients (or make a trip to the store with you to purchase the ingredients with room fund money), those who will help in the measuring of the ingredients, those who will help in the mixing, those who will help in the preparation for baking and bakers.

2. PROCEDURE Continued

Students may want to prepare their goodies for purposes other than their own enjoyment. The baked goods may be part of a treat for a visiting class or a visiting guest who has come to talk to them. You may prepare some goodies to take along on a field trip as a "thank you" to the people you are visiting.

3. ACTIVITY: Construction of a Bakery-sized Mixer

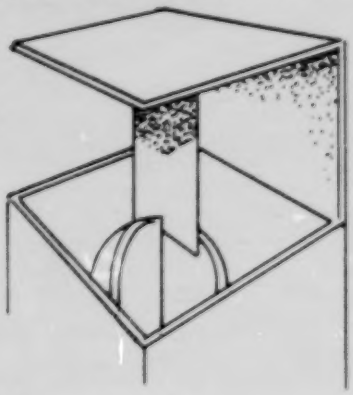
OBJECTIVE: A group of students will make a replica of a bakery mixer.

MATERIALS: Large cardboard carton (refrigerator size)
Scissors
One-sided razor blade
Paint

PROCEDURE: Discuss the large amounts of ingredients a baker needs to mix. Point out how impractical a small mixer would be and that there is a need for a large mixer.

Making the machine: The teacher will need to be the "razor blade" person. Stand the box lengthwise. Begin cutting a strip from one of the upper corners crosswise to the next so that you have cut three sides. Next, cut down 24 inches from each of those corners. Cut out those pieces by slashing from the bottom of each cut. Use those pieces from the "hole" to make a beater.

Beater: Cut two of the pieces of cardboard into large ovals. Slit each oval halfway down, one from the top, one from the bottom. Join them.



Use cardboard to join beaters to the top of the box.

Make a list of ingredients a baker might use in mixing a cake.

Role play the part of the baker mixing each ingredient.

4. ACTIVITY: Bakery Day!

OBJECTIVE: Each student will bring a bakery item to school and place it in a display case in the classroom. He will then choose the bakery item he wants for dessert at lunchtime.

MATERIALS: A shelf large enough to hold the bakery items. Decorations to make the shelf look like a display case. A letter to parents explaining "Bakery Day."

PROCEDURES: Discuss the idea of bakery day with the children. If they decide they'd like to do this, discuss their responsibility of bringing the baked goods, displaying sportsmanship, setting up, cleaning up and informing their parents.

The idea is that each child brings a bakery item from home: cookie, cake, cupcake, doughnut, Twinkie...

The children will display the goods and then choose a number from a hat. The number will determine who gets first choice, second, third, etc. Perhaps a good way to do this is to line up the children in order and then "run" them through the display area giving them each three seconds to choose their dessert.

5. ACTIVITY: Ingredients of a Recipe

OBJECTIVE: The child will see, feel and taste the ingredients of baked goods.

MATERIALS: Several cups containing: soda, one egg, salt, baking powder, flour, powdered sugar, brown sugar, granulated sugar, molasses, vanilla...

PROCEDURE: Set up an activity center where children can examine the ingredients. Present questions to the students such as, "Which is smoother...rougher...whiter...sweeter?"

LESSON 8: TURKEY DAY IS ON ITS WAY!

CONCEPTS: Under properly managed conditions, turkeys can be raised for commercial market.

Turkey dinner is a Thanksgiving tradition for many American families.

TOPIC: Poultry Production and Marketing.

FOCUS: Lee Adams, Foreman

LOCATION: Rusk Turkey Hatchery and Farms
Grandview, Washington

BACKGROUND INFORMATION

HOW ARE TURKEY EGGS HATCHED?

Under natural conditions, a hen will use the natural warmth of her body to hatch her poults (the name for baby turkeys). For commercial marketing, this natural process is done through the use of incubators.

At the Rusk Hatchery, turkey eggs are delivered from the Nicholas Turkey Breeding Farms in Sonoma, California. These are the foundation stock. The Rusk Farms have their own breeder hens and select their brooders. They produce a large white turkey. (In the past 15 years most turkeys raised for market are white. They are easier to process than the once familiar bronze turkey.)

At the beginning of the hatching process:

Eggs are dipped into an anti-biotic solution to kill certain disease organisms.
They are then put into the first incubator.
There are four of these incubators. Each one has the capacity to hold 30,000 eggs. Within the incubators, the temperature is kept between 95 and 98 degrees.
The eggs stay in these incubators for 25 days.
On the 26th day, they are transferred to the hatcher.
Here the eggs are put in long narrow trays.
The poults hatch on the 28th day.
They are taken from the hatching trays and put into a cardboard carton.
Sexors sort the poults according to their sex.
They stay at the hatchery for one day.

WHAT HAPPENS TO THE POULTS AFTER THEY ARE HATCHED?

At the Rusk Farms, the poults are moved from the hatchery and taken to a different farm and put into a Brooder House. This is the first place they get food and water. Their starter feed consists of grain, meat scraps, fish meal, soy bean meal, vitamins

and minerals. The feed is formed in pellets and then ground so that it is of a relatively fine consistency.

In the Brooder House, the poults are under brooder stoves. The temperature is set for 95 degrees for the first few days of their stay. After that, the temperature is decreased every five days. The poults are here for six to seven weeks. When they do not need the heat any more, they are moved to an outside range house. Here they also have automatic feeders and water. They are checked daily by the farm manager or foreman.

ARE THE MALE AND FEMALE TURKEYS TREATED DIFFERENTLY IN PREPARATION FOR MARKET?

Female turkeys are called hens. Male turkeys are called toms.

The hens will stay at the range house until they are 18 or 19 weeks old and weigh approximately 15 pounds. They are then ready for market.

The toms stay until they are 21 or 22 weeks old and weigh approximately 25 pounds.

A foreman will take care of the birds daily. He will check to see that the feeders are working properly and that the birds are getting their water. The hens and toms are kept separated in large enclosed range houses when possible. Each house holds 10,000 turkeys. A skilled foreman can come into the range house and know by looking at the formation of the birds what is going on. He checks for diseased birds or for dead birds.

WHAT KINDS OF THINGS ARE DONE TO PROTECT THE HEALTH OF THE TURKEYS?

The poults are vaccinated when they are two weeks old. This is done through their water and is mainly done to prevent Newcastle disease. They are vaccinated again at six weeks for protection against cholera. This is done individually by crew members with syringes.

The Rusk Farm does not have a full-time veterinarian but calls on the services of the Western Washington Experiment Station and their Poultry Diagnostic Lab located in Pullman, Washington, when they need one.

The feed the turkeys eat daily is made up of a high protein well-balanced combination of ingredients. It is a controlled diet. Once the birds are in the range house, the protein content of their diet is decreased every two weeks and more grain is added to it.

One of the reasons for the turkeys' being put in range houses is to prevent their being killed by predators. There are problems with coyotes coming onto an open range and killing anywhere from 20 to 30 turkeys in one night. Another reason for enclosed range housing is to automate the feeding process.

LESSON 8: BACKGROUND INFORMATION Continued

HOW MANY EMPLOYEES WORK AT THE RUSK FARMS?

There are four different farms that make up the Rusk complex. The first one is the hatchery. Here workers include a manager and workers who take care of the breeders, collect hatching eggs, care for the brooding stock and work in the hatchery.

Another farm has the brooder houses. A manager takes care of the poults until they are ready for the range houses.

There are two breeding farms where the turkeys grow. Here managers and foremen and other employees take care of the birds. One person is responsible for mixing and delivering the feed to the different farms.

WHAT HAPPENS WHEN THE TURKEYS ARE READY FOR MARKET?

The turkeys are loaded from the range house onto trucks and taken to the processing plant in Sunnyside, Washington. There they are hung by their feet on shackles, their throats are cut and they are bled to death. They go through a scalding tank where their feathers are loosened and a machine strips the feathers. Their insides are removed as are shanks. A veterinarian examines each bird as it goes through and will take out any birds that do not come up to standard requirements. The bird goes into a chill tank where it is inspected and graded, put into plastic bags, quick frozen and boxed ready for stores.

WHO BUYS THE TURKEYS FROM THE RUSK FARM?

The turkeys from the Rusk Farm are marketed under the brand name of Lynden. The turkeys are bought by the Western Farmers Association and from there they are processed and distributed to wholesalers and retailers.

SUGGESTED ACTIVITIES FOR LESSON 8

1. ACTIVITY: Preparing a Thanksgiving Menu

   OBJECTIVE: Each student will prepare a "turkey" illustrating a Thanksgiving dinner he would like to have.

   MATERIALS: Construction paper.
   Magazines, scissors, glue

   PROCEDURE: Go through a magazine with your students to give an example of what they are to do. Tell them you are going to make up your Thanksgiving menu by getting ideas from magazine ads. Of course, the first thing on your list will be ROAST TURKEY!!

   Cut out individual large letters from the magazine to "write" this word. It will form the turkey's body. Search through the magazine for additional items that can be cut out to form the turkey tail and legs. Complete the picture by drawing the rest of the body.

2. ACTIVITY: Paper Sculpture Puppet

   OBJECTIVE: Each student will make a paper turkey puppet.

   MATERIALS: White drawing paper, colored construction paper for features
   Staples, scissors, glue, yarn, string
   Each student will need:
   Two white strips, 1 1/2" wide and 12" long (for body)
   Twelve white strips, 1" wide and 4" long (ten for feathers and two for head)
   Six white strips, 1" wide and 12" long

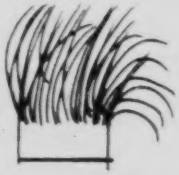
   PROCEDURE: The turkeys featured on the WORKING TOGETHER segment are large white turkeys. White drawing paper curls well for this activity!

SUGGESTED ACTIVITIES FOR LESSON 8 Continued

2. PROCEDURE: Continued

Take the two 1 1/2 " x 12" strips. Make one into a circle and staple. Make the other strip into a circle connecting it with the first circle to make a sphere. Staple crossing points at the top and bottom. This will be the turkey body.

Take the ten strips that are 1" by 4". Leaving a base space to glue onto the body, cut very thin strips and then curl very slightly with scissor edge.

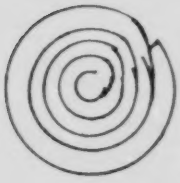


Glue curled feathers across the top of sphere and down back side.

Take the six strips of paper, 1" x 12". Make accordion strips that will be two bouncy legs and one bouncy neck. Attach to the turkey body.

Take the two remaining strips that are 1" x 4". Form a sphere as you did with the body. Attach this to the turkey neck to make a head.

To make features: Cut feet and attach to legs. Cut a red "gobbler" out of a circle, cutting around it to make a spiral that will be bouncy and hang down the front face strip. Glue the top part of it down and then glue the beak over it.



Attach two round black eyes to a piece of string and attach to the face so that they hang down in those front open spaces.

2. PROCEDURE: Continued

A piece of yarn attached to the top of the head section will be the puppet string.

3. ACTIVITY: Discussion

OBJECTIVE: Each child will contribute to a discussion, either by listening attentively or by speaking.

MATERIALS: Teacher pictures of animals that are a source of food to us

PROCEDURE: The purpose of visiting a turkey farm in the WORKING TOGETHER segment is to help students become aware that there are animals that provide us with food products.

Discuss some of the other animals besides turkeys that we use as food. (Cows, chickens, hogs, deer) How are these foods obtained? (Some animals are raised for this purpose. Some animals are hunted by man.)

LESSON 9: GREEN SCENE

CONCEPTS: It is necessary that our natural forest resources be managed properly if they are to continue to provide us with both aesthetic beauty and useful goods.

A forester with the National Forest Service is skilled in the area of forest management.

We all make decisions that affect the environmental quality of the forest.

TOPIC: Forest Management

FOCUS: Dalton DuLac, District Ranger

LOCATION: Mount Baker National Forest
Monte Cristo District
Verlot Ranger Station

BACKGROUND INFORMATION

(Most of the following information was gathered with the aid of U.S. Forest Service Publications.)

WHAT IS THE NATIONAL FOREST SYSTEM?

The National Forest System comprises 154 National Forests and 19 National Grasslands in 41 states and Puerto Rico. These public lands are administered by the Forest Service, U.S. Department of Agriculture.

As directed by Congress, renewable forest resources -- water, timber, forage, wildlife, and recreation -- are managed under the principles of Multiple Use and Sustained Yield.

Multiple Use means that resource management is coordinated so that areas of land produce a combination of values that best serve the American people. Sustained Yield means that resources are managed so as to provide services and products at a level of supply as high as can be sustained without harming the land's ability to produce.

HOW IS THE NATIONAL FOREST SYSTEM ORGANIZED?

1. Research

2. Cooperative Forest Management (fire and restoration)

LESSON 9: BACKGROUND INFORMATION Continued

3. National Forest Administration

   a. Our country is divided into ten regions.

   b. The Pacific Northwest is Region No. 6.

   c. Each region is divided into National Forests.

   d. The Pacific Northwest has 19 National Forests.

      1. Thirteen in Oregon

      2. Six in Washington

   e. Each forest is divided into ranger districts.

   f. The Mount Baker National Forest has four ranger districts.

   g. Dalton DuLac is the District Ranger at the Verlot Ranger Station in the Mount Baker National Forest.

WHAT IS A DISTRICT RANGER AND WHAT DOES HE DO?

A District Forest Ranger is a professional forester. He trained for the job with at least four years of college work. Graduated foresters usually enter the Forest Service as assistant rangers or junior foresters. It may be several years before they qualify and are promoted to the job of District Forest Ranger. A District Forest Ranger is the administrator and manager of a large area of forest land -- a district that may cover several hundred square miles. He is responsible for the protection of his forest and its resources from fire;

for the growth, management and sale of its timber crops;

for the safeguarding of its watershed values;

for the development of its wildlife habitat and recreational facilities;

the leasing of land for resorts and other special uses;

the granting of permits for livestock grazing;

and the management of recreational use.

The supervisor, ranger or manager in charge of any multiple-use forest area, has the over-all responsibility for planning and directing and coordinating the various activities and development projects on his forest area. He may have specialists on his staff that handle the detailed work in such fields as

fire protection,

pest control,

timber management,

wildlife,

and recreation.

There also may be a number of technicians, foremen, aides and other workers on his staff.

HOW ARE WE A PART OF THE FOREST SERVICE PROGRAM?

All of us benefit from the renewable forest resources that members of the Forest Service work so hard to manage and conserve. We depend on these resources in order to live, work or play. Our nation's economy and strength is due in large part to the resources we have here in the United States.

SOIL — All living things depend upon soil directly or indirectly for food. Soil stores water for use when needed, provides minerals and moisture for plant growth which in turn gives us food, wood, the scenery, etc.

WATER — All living things need water in order to live. Water is used in irrigation, electric power production, home consumption, manufacturing, transportation and for recreation. Water replenishes itself in the water cycle. It drains off the land or seeps into the soil in watersheds.

PLANTS — Plants help the soil store and regulate the flow of water. They help in the reduction of soil erosion. Plants are renewable if managed and harvested properly. Plants also provide food for animals.

TREES — Trees provide us with shelter and with a long list of wood products that we depend on daily. Trees also hold soil and slow surface water runoff.

WILDLIFE — The forest provides food and cover for many animals. Animals can both help and hinder forest growth. Many eat insects and lower insect attack on trees. When there are more animals than food supply, the animals may strip bark off trees for food. When this happens they may die of starvation since there is not enough food. This is one reason for regulated hunting seasons. We also find enjoyment in observing forest wildlife when possible.

RECREATION — The forest can provide us with a place to get away from it all, to rest and to relax. The forest service is responsible for developing many

LESSON 9: BACKGROUND INFORMATION Continued

recreation areas and administering other "wilderness areas" where everything is left in its natural state.

WHAT KIND OF STAFF WORK IS REQUIRED AT THE VERLOT RANGER STATION?

Dalton DuLac is the district ranger at the station. He has an able staff of eleven permanent workers. They include resource assistants in timber management and recreation, engineering assistants, fire control assistants, and administrative clerks.

During the summer months between thirty and forty additional employees are hired. Their duties include:

cruising of timber sales to determine the volume of timber ready for cutting, its value and its sale price,

*the planting of new seeds to reforest areas logged,

brush disposal of areas logged,

prevention patrols touring the district speaking to groups,

*recreation crews providing clean up and maintenance of grounds,

back country guards who hike to high country for maintenance purposes,

trail maintenance and construction,

maintenance of buildings,

and collection of land and water fees.

WHAT ARE THE ENEMIES OF THE FOREST?

Fire is the biggest destroyer of our forests. Some fires are caused by natural causes (lightning) but nine out of ten fires are caused by man. This comes from improper use of cigarettes, matches and campfires. Uncontrolled fires affect all of us. Each year the U.S. Forest Service spends nearly 15 million dollars to control fires. Approximately 55 million dollars are spent by everyone each year to control raging fires.

Insects destroy a large quantity of timber each year.

Diseases attack trees in a variety of ways.

Weather can be harmful.

*Emphasis on "Working Together" segment.

LESSON 9: BACKGROUND INFORMATION Continued

An overabundance of wildlife can harm the trees.

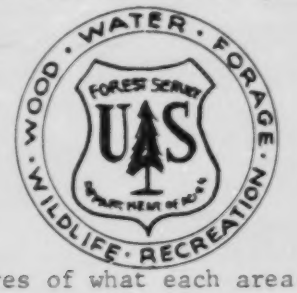
Man causes a lot of damage to forests. Not only is he careless with fire but he destroys trees, causes water pollution, litters camp areas, and is often involved in vandalism.

SUGGESTED ACTIVITIES FOR LESSON 9

1. ACTIVITY: A Mini Unit (to last a week) on Forest Resources

   OBJECTIVE: Each student will make a booklet illustrating the five areas of Forest Service Management.

   MATERIALS: Blow-up of the Forest Service Symbol



   Sample pictures of what each area represented in the symbol means.
   Booklet material.
   Background information from this segment of the guide as a starting point.

   PROCEDURE: You may want to develop the unit in your own manner but here is a suggested approach.

   The WORKING TOGETHER segment will focus on the workers who maintain recreation sites and the workers responsible for reforestation (planting seeds in logged areas).

   These two areas (recreation and wood) may serve as a starting point. Develop an awareness of our forest resources through discussion, pictures, films, and books. Strive for the students' understanding of the part they play as consumer of these forest resources.

2. ACTIVITY: Class Discussion

   OBJECTIVE: Each student will name one product made from wood.

   MATERIALS: Magazines
   A variety of pictures that show everyday uses of wood products

   PROCEDURE: In preparation for the next three lessons that deal with wood products, discuss with your class some of the many ways we use these products every day. Pictures from magazines would be a good place to start (the magazine itself being a product). The classroom contains many items, our homes contain many items, etc. Let students browse through magazines to get some more ideas. Continue the discussion.

SUGGESTED ACTIVITIES FOR LESSON 9 Continued

3. ACTIVITY: Field Trip

OBJECTIVE: Students will go to a forest area where they can get a feel for that environment.

MATERIALS: None

PROCEUDRE: Arrange for a field trip to a forest area. Before you go, talk about the forest area and the needs we have for forest products. Pose the question: "How can we make sure that we don't use up all our wood?" Work on answering that question during your visit and on your return.

Possible reactions may include:

Don't cut down so many trees.
Be careful of the way you cut down trees.
Replant forest after it is logged.
Talk about time period to reforest an area.
Make wise use of products we have.
Make sure we don't destroy our forests through carelessness.

4. ACTIVITY: Creating Anti-Pollution Slogans

OBJECTIVE: Each student will create a positive slogan of a way he thinks he can keep the environment in shape.

MATERIALS: A blow-up of Woodsy (made on opaque projector)
Dittoed sheet with Woodsy and a place to write slogan

PROCEDURE: You may or may not be familiar with Woodsy, the Forest Service Owl. His tiny image appears in many newspapers with the slogan "Give A Hoot! . . . Don't Pollute!"

4. PROCEDURE: Clip this out to serve as a blow-up pattern. The Forest Service is trying to promote the "Woodsy" image and welcomes hoots to be sent to

Woodsy Owl
U.S. Forest Service
Pasadena, California 91101

Even if you don't send them in, the kids will have an interesting learning experience thinking up slogans.

Woodsy's Refrain goes:

I'm Woodsy Owl and I fight pollution.
I want you to join my clean-up revolution . . .
So give a hoot . . .
Don't pollute!

Hoots are pollution stoppers. Here are some suggestions that the Forest Service has put out:

1. Leave our forests and parks clean . . . or cleaner.
2. Cans, bottles, paper . . . recycle them.
3. Sh sh sh sh sh sh sh . . . noise pollutes, too.
4. Bicycles, shoe leather . . . smogless.
5. Tuned engines . . . less smog.
6. Nature's beautiful . . . leave only your footprints.
7. Soil is for plants . . . not tire tracks.
8. People need fish . . . fish need clean water.
9. Trees make many things possible . . . plant a tree.

Birds, animals, trees and flowers are dying to tell us . . . no pollution please. So give a hoot. Don't pollute . . . our land, waters, our air . . . our forests, towns or cities.

Let students share their hooters with other classes in the school. Kick off a campaign for environmental concerns including caring for growing things (e.g. walking on the sidewalk, not on the grass), litter control, recycling, and noise level control.

LESSON 10: PAPER CAPER

CONCEPTS: Paper is a part of our 20th century pattern of life that we tend to take for granted. We use it in literally thousands of ways.

Paper is made from wood.

The process of making paper involves some environmental concerns.

TOPIC: Wood products

FOCUS: Production of Paper, Paper Mill

LOCATION: Crown Zellerbach Paper Company
Port Angeles, Washington

BACKGROUND INFORMATION

HOW IMPORTANT IS THE CROWN ZELLERBACH COMPANY IN THE PAPER PRODUCTION BUSINESS?

With roots going back nearly 100 years, Crown Zellerbach is the pioneer pulp and paper company of the West. Today, it is considered the second largest manufacturer of pulp, paper and paper products in the world. The Port Angeles mill is one of 16 primary mills operated by the company in the United States and Canada, six of which are in Washington and Oregon. In addition to Canada, the company's international operations include jointly-owned mills in Chile, the Netherlands and South Africa. Pulp and paper constitute big business in the Northwest. The industry employs about 22,000 people, to say nothing of those engaged in logging and transporting the raw material.

WHAT ARE THE STEPS IN THE PAPER-MAKING PROCESS?

Wood Supply

The mill's wood supply comes from three principal sources: pulp-grade logs harvested on the company's 70,000-acre Neah Bay Tree Farm in western Clallam County; wood purchased from local tree farmers and small woodlot owners; and chips generated as a by-product of plywood and sawmill operations in the area. The nice thing about using wood is that our trees are renewable through tree farming because they can be grown, harvested and grown again in never-ending crops. Nature has done this for centuries, but as man stepped in he threw Nature off balance. Now man must help Nature. This is why our three professional forestry schools at Oregon and Washington State Universities and the University of Washington have been training men as foresters for more than 60 years. More than 3,000 professional foresters work in Oregon and Washington forests to grow, protect, harvest and grow trees again to create a better environment through forestry.

LESSON 10: BACKGROUND INFORMATION Continued

Pulp

Ground-wood pulp is made by grinding wood to reduce it to fibers. At Port Angeles, this is accomplished by pressing blocks of wood against a revolving grindstone or by grinding wood chips between two revolving metal discs in machines called "refiners." This ground-wood pulp is combined with draft pulp (a chemical pulp) from other mills to obtain the desired characteristics in the paper. Before going to the Port Angeles paper machines, the pulp is screened to remove wood particles, processed to refine the fibers and forced through cleaners to eliminate any specks of dirt.

Paper Machines

"Wet End" -- Pulp is fed onto a continuously moving wire-mesh screen at the "wet end" of the paper machine as a mass of wood fibers suspended in water in a combination of about 0.5 percent fibers and 99.5 percent water.
Suction devices beneath the screen draw off much of the water, leaving a wet mat of interlaced fibers, which is "paper" in its most basic form. The largest paper machine at Port Angeles produces a sheet of paper nearly 19 feet wide that travels at speeds up to 2,000 feet per minute.
The mat is strong enough to hold its own shape in a fast-moving sheet. It is picked off the wire screen by a suction roll over which a felt "blanket" is passed. The sheet is then carried by the felt through a series of rolls, where pressure and suction are applied to squeeze out more of the remaining water.

"Dry End" -- The sheet then moves on to a series of steam-heated rolls, where it is dried.
Finally the sheet passes through a vertical series of polished metal rolls called "calenders" where it is pressed and smoothed to the desired finish.
Finished reels of paper weighing up to 8 1/2 tons are cut and rewound into smaller reels as required by customers.

Finishing and Shipping

Rolls of finished paper are carefully handled to avoid damage. The paper is given a final quality inspection, weighed and wrapped with a strong protective paper wrapping.
Some of it is then shipped directly by truck to nearby customers.
Most of the rolls of paper are stored in the mill's own warehouse before they are moved out of Port Angeles by ship, train, and truck to communities throughout the West and to overseas points.
Careful planning is required to insure smooth delivery of the tons of paper continually leaving the mill for various destinations.

HOW DOES CROWN ZELLERBACH INSURE QUALITY IN THEIR FINAL PRODUCT?

The Port Angeles mill's laboratory runs tests continuously at various stages of the manufacturing processes and of the finished products to be certain the paper has the strength and printing characteristics required for use on modern, high-speed printing presses.

LESSON 10: BACKGROUND INFORMATION Continued

Electronic monitors are used throughout the manufacturing operation to aid mill personnel in maintaining rigid quality standards.

The mill's technicians also work closely with researchers and scientists from the company's Central Research Division at Camas, Washington, to improve techniques and to develop new manufacturing methods.

WHAT ARE SOME OF THE ENVIRONMENTAL PROBLEMS AND WHAT IS BEING DONE ABOUT THEM?

Resourcefullness of Trees

At one time paper mills used only high grade timber. High grade timber is now being used for lumber and the paper mills are using the wood which is rejected or "left over" from high grade timber. This cuts down on the wood waste. Foresters are studying new and better ways for trees to be grown, harvested and grown again.

Water Pollution

The mill uses 15 million gallons of water per day! (The citizens of Port Angeles use 5 million gallons per day.) Water is used in the filtering process so you can imagine the amount of waste the water takes with it. The mill has a clarifier which takes the wastes from the water. The wastes are then burned as fuel and the relatively clean water is recycled through the milling process. Problems of water supply and water pollution appear to be capable of solution in order to make available new locations for pulp plants that will meet environmental requirements.

Air Pollution

The smoke that comes from the stacks at the plant is caused by waste products which include wood particles and chemicals. An enormous amount of research has gone into improvements, much of which has been devoted to reduction of odors. Regulations have been enforced and the newer mills are producing less air pollution. (Remember that much of the "smoke" is actually steam since about four tons of water are evaporated for each ton of pulp produced.)

Odor Problem

By no stretch of the imagination are these extremely small concentrations of these odorous materials injurious to human health, but they smell! Much research is being done and it is paying off in improved designs for new mills and reduction of emanation of odorous gases from older ones. Greatly improved control methods are available, and, by actual measurement, the effects of improvements in equipment and operation are determinable.

SUGGESTED ACTIVITIES FOR LESSON 10

1. ACTIVITY: Art Project

   OBJECTIVE: Each child will make a vase using sawdust pulp or paper mash.

   MATERIALS: Tempera paint, shellac or gesso, soft drink bottle
   Paper mash: newspaper, liquid starch, paste or glue
   Sawdust pulp: Four cups fine sawdust, wheat paste

   PROCEDURE: Decide which pulp will be most convenient for you to make:

   Papier-mache pulp: Tear newspaper or other absorbent paper into small bits, 1/2 inch pieces, cover with water and let soak for 48 hours. Drain off the water and mix into wheat paste until a dough-like pulp is obtained. A few drops of oil of cloves may be added to wheat paste to retard spoilage.

   Sawdust pulp: Mix 4 cups of fine sawdust with 2 cups of thinly mixed wheat paste and form the mixture into a ball. If the ball retains its shape, it is probably the proper consistency. If it breaks easily, more paste is necessary. An absolute recipe is not possible as various wood sawdust absorbs moisture differently.

   Apply a 1/4-inch layer of pulp to the outside of the soft drink bottle. Allow the vase to dry thoroughly (1 or 2 days). Paint the vase using any design you wish. When dry, apply one coat of shellac or gesso for shine.

2. ACTIVITY: Art Project

   OBJECTIVE: Each student will make a Christmas ornament using papier-mache.

   MATERIALS: Newspaper, wheat paste, masking tape. paint
   Paper clip, buttons, yarn, shells, etc.

   PROCEDURE: Form newspaper into a ball using tape to keep the shape. Attach a paper clip to the paper ball with tape. Cover the ball with two layers of wheat paste-soaked newspaper strips. Then paint the ball with brightly colored acrylics or tempera paint and add a coat of shellac for shine. For decoration, glue on ribbon strips, sequins, yarn, buttons, shells or other small objects.

LESSON 11: WALK RIGHT IN!

CONCEPTS: We use wood products every day.

In a wood processing plant, teams of workers contribute their skills to making an end product.

TOPIC: Doormaking

FOCUS: Production Line

LOCATION: Simpson Timber Company
McCleary, Washington

BACKGROUND INFORMATION

HOW LONG HAS THE SIMPSON TIMBER COMPANY BEEN MAKING DOORS?

In 1911, Henry McCleary began a combined plywood and door plant located at the southern tip of the Olympic Peninsula in Western Washington. This operation was maintained during the recession even though the market was very slow.

In the late thirties, the McCleary plant had to face the possibility of closing since private stands of timber were disappearing from the area. It was at this time that the Simpson Timber Company was able to be of assistance. This firm had replanted thousands of acres of cut-over land for future harvesting.

In 1941, Simpson purchased the McCleary holdings and incorporated them. According to a Simpson publication, "The future of the operation was finally assured with the 1946 signing of the Shelton Co-Operative Sustained Yield agreement between Simpson and the federal government. This pact, the first of its kind, set aside both Simpson and government-owned timberlands to be harvested on a sustained yield basis. This meant that as much timber would be grown as was cut, thus assuring a crop in perpetuity."

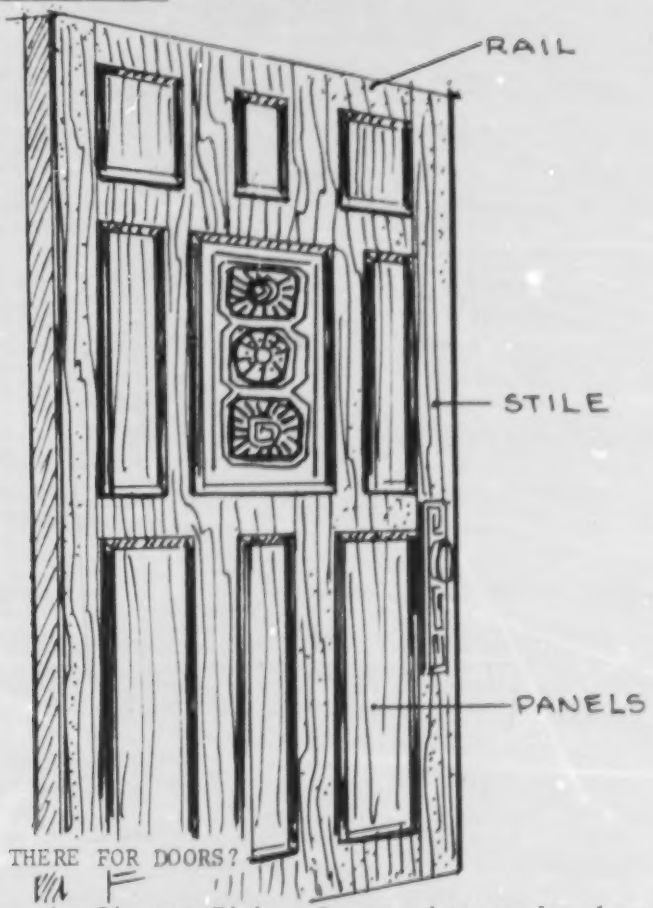
The doormaking plant is just one aspect of the Simpson Timber Company and is an area where they are a major contributor.

WHAT KINDS OF DOORS DOES THE SIMPSON PLANT MANUFACTURE?

Simpson uses modern production methods to provide a quality door that has a custom-made look.

The stile and rail door is the only style made at the plant. A variety of designs are a part of this style. For example there are exclusive, carved panel designs that present a Florentine, Spanish, Early American or Aztec flavor.

Simpson manufactures standard doors of the traditional designs, too.



WHAT KIND OF MARKET IS THERE FOR DOORS?

In the past sixty years, the Simpson Timber Company has produced over 64 million doors and has sold them in every state in the Union. Their biggest market is in the Southeast United States. Their predicted production in 1972 is a half million doors.

WHERE DOES THE PLANT GET ITS WOOD?

The raw material used to make Simpson doors is shop grade lumber. Douglas fir and hemlock are the kinds of wood used. Both green and dry wood is shipped in from Canada, Oregon and California. Our state of Washington is a big supplier.

WHAT IS THE PROCESS FOR MAKING A DOOR AT THE SIMPSON PLANT?

Lumber Handling Area

Twenty to thirty different sawmills send lumber to the plant.
The lumber is separated according to its length.
Green lumber is put in the steam-heated kiln to dry.
This may take anywhere from six days to two weeks.
Dry lumber is stored according to kind and species.

Cutting Area

One-third of the plant's employees work in this area. Their purpose is to cut a length of clear wood. Individual judgment is used in grading out bad parts. Cutters make their decision and cut the lengths. The length pieces drop onto a conveyor and go to an automatic sorter/stacker. Here they are sorted and stacked according to grade, dimension and length. Some length pieces are edge glued and later cut for the panel part of doors. Cut pieces are put on carts to be taken to the doormaking section of the plant.

Doormaking Area

Carving Design -- (emphasis on WORKING TOGETHER segment) A complex machine works on the pantograph principle to carve 16 panels simultaneously from a master pattern. It takes skill and patience on the part of the operator to guide the machine over the detail of the master plate. Four hundred of these panels can be carved each day. They are later incorporated into the panel design of a door.

Specialty Shop -- Here special orders are made. The men working in this area have been with the plant for 20 years.

Doweling Operation -- three operations take place in one machine: 1) Holes are drilled into the door pieces. 2) Glue is put into the drilled holes. 3) Doweling is put into the glue in the holes. Presto! A door piece is ready to be joined with other parts.

Door Press -- Workers partially assemble rail and stile pieces. A stile section is laid down and panel pieces are loosely pounded in. A hydraulic press squeezes these parts together, exerting even pressure that provides tight joinings throughout the door. Doors are then stamped with the customer's number. They are sent to the sander or to men that will put glass in them.

Inspection and Repair Area -- Each step of the process has been carefully checked, but a final inspection of each individual door takes place by skilled craftsmen. They look for defects and repair any flaws they find.

Shipping Area -- Doors are either individually cartoned for shipping and storage or they are stacked in units with cover wraps that protect and identify the contents. When ready to go out they are loaded carefully on railroad boxcars that will take them to the customer. The doors are cushioned inside the boxcar so that they won't be damaged enroute.

Approximately 2,000 to 2,500 doors can be loaded every day.

WHAT KINDS OF SAFETY PRECAUTIONS ARE OBSERVED IN THE PLANT?

The workers are cautioned to use their own good judgment when working with the equipment. Many posters and banners are around the plant to remind the workers to be careful. An organized safety committee meets once a month to talk about

problems and ways to make the workers safety conscious. There are periodic safety inspections in all parts of the plant.

WHAT KINDS OF ENVIRONMENTAL CONCERNS ARE PRESENT IN THE PLANT?

The dust build up is a major concern. The plant has installed 25 thousand dollars worth of bag filtering equipment to cut down on this build up. The noise level within most areas of the plant is very high due to the constant buzzing of saws and other equipment. Because constant exposure to this noise level could contribute to hearing loss, it is required that workers wear ear plugs to protect their hearing.

SUGGESTED ACTIVITIES FOR LESSON 11

1. ACTIVITY: Observation and Drawing

   OBJECTIVE: Each student will observe the doors in his own home. Each student will draw the different types of doors in his house or apartment.

   MATERIALS: Paper, crayons, pencils

   PROCEDURE: Begin a discussion of the different kinds of doors we use every day. Look at the kinds of doors in your classroom and school. How do they differ from the doors you find at home or in the supermarket or at a restaurant? Why do they differ?

   Ask students to take some time that evening when they are at home to go around their house or apartment and count the number of doors they find. Ask them to take a look at the different kinds of doors that they use in their own home. How are the inside doors and outside doors different? Why are they different? Tell them that they are to remember what the doors look like so that they can draw them when they come to school the next day. If they might have a hard time remembering the designs, have them make a quick "reminder sketch" while they are at home.

2. ACTIVITY: An Experience in Design and "Carving" (Two days)

   OBJECTIVE: Each student will work on a design, putting it down on paper. Each student will transfer his design to a piece of clay.

   MATERIALS: Paper, pencil, crayons
   Potter's clay (to be fired)
   Variety of carving tools (pencils, scissors, paper clips, nuts, bolts, screws, etc.)
   Some soft music.

   PROCEDURE: Talk about the designs made by the carver in the door plant. Why do people like to have designs made? Talk about some of the other places we find designs (furniture, rugs, dishes, glassware, silverware, wallpaper, clothing, paintings).

   How do people get their ideas for designs? These may come from feelings within them, feelings they have from an experience of walking in the natural environment or feelings they have quietly sitting and listening to music.

   Give the students a quiet time to sit or lie with their eyes closed. Ask them to try and envision a simple design that could be put on a piece of clay and used as a decoration. During the quiet time, put on some soft music to help set a reflective mood.

2. PROCEDURE: Continued

After a given amount of time, ask the students to put their designs on paper. If some students need more time to think of something, let them take it. Music can continue while they work.

Second Day

Pass out clay. If you do decide to fire the clay, take time to explain the importance of working carefully and of having a solid surface to work on. Clay should not be too thin or it will crumble when fired. Let students decide the shape of their clay piece (round, square, triangle), and if they want it to be a medallion, be sure to have them put a hole in it so they can later put a lace through it.

Put a variety of items out for them to use as carving tools. Have them look again at their design drawing from the previous day. Let them go to work transferring this to the clay. When they have finished their design, make sure they etch their name on the back of the clay piece so it can positively be identified later!

LESSON 12: SIT RIGHT DOWN!

CONCEPTS: Wood can be creatively designed and made into useful products for young people.

Toymaking does not always involve commercial mass production.

Safety concerns are a large factor in the production of children's toys.

TOPIC: Wood Products

FOCUS: Pete Garrison, Toymaker

LOCATION: Mercer Island, Washington

BACKGROUND INFORMATION

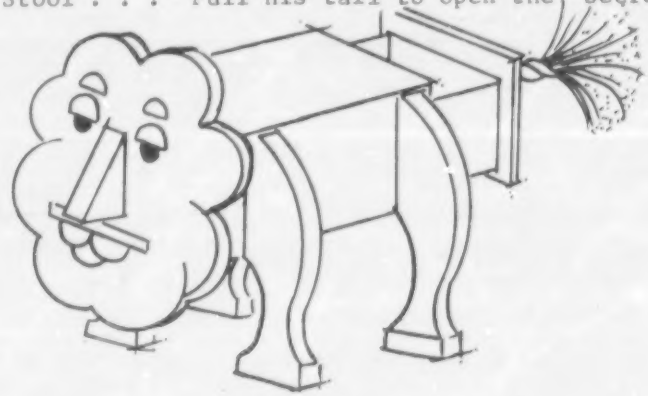
HAS PETE GARRISON ALWAYS MADE TOYS FOR YOUNG CHILDREN?

Prior to 1970, Pete Garrison was an industrial salesman in the hydraulic field, involved with systems and design. In 1970, he was laid off. At this time, he decided to become more seriously involved in an activity that he had long enjoyed, that of creating toys and useful items for his own children. The basement of his home became a full-fledged workshop. Soon the items he designed and made were being requested by neighbors. Pete then decided to seek a market for his wooden items and went out with samples of his toys to different retail stores. This, plus ads placed in local newspapers, started to bring many requests for Pete's items.

WHAT KINDS OF TOYS DOES PETE GARRISON MAKE?

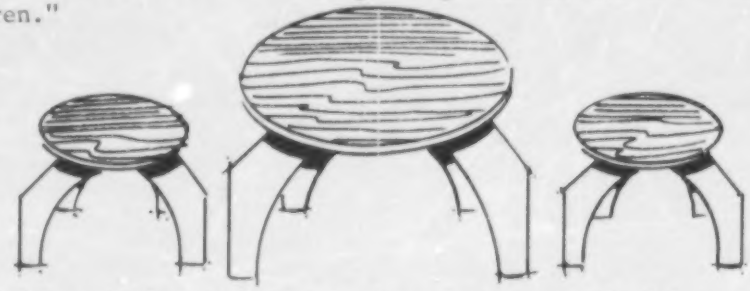
Among the wooden items Pete makes are:

1) the Lion Stool . . . "Pull his tail to open the 'secret drawer.'"



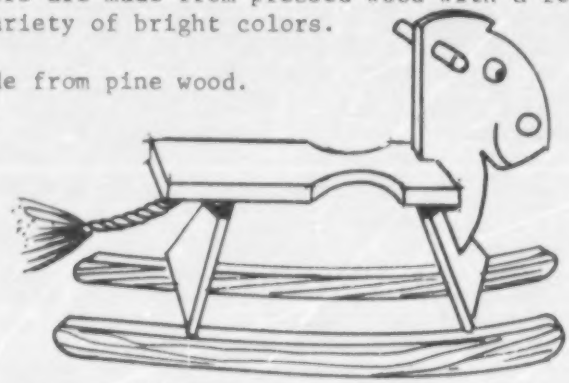
LESSON 12: BACKGROUND INFORMATION Continued

2) the Toddler Table . . . "Strong enough for adults . . . small enough for children."



The tables and chairs are made from pressed wood with a formica covering which provides a variety of bright colors.

3) a Rocking Horse made from pine wood.



Other items made from wood are a child-size sink with a round insert section for a pan, hooks on one side for dishes and a towel holder on the other side. Another popular item is a cradle.

Pete makes his own toys. He makes initial patterns that are used over and over again. Some of his designs have changed slightly as he has thought of better ideas or more economical ways of cutting patterns out of a piece of wood. Once he cuts out the wood pieces that will form a cradle or rocking horse or table, he assembles the parts, puts them together and finishes the item with a natural finish or a maple stain.

DO ANY OTHER PEOPLE HELP PETE WITH HIS WORK?

Pete and his wife Beverly have four youngsters. Bev sometimes gets involved helping with the bookkeeping and with the purchase orders. The children often will test out new items that Pete designs and makes. But basically it's a one-man job. After the product is finished though, he depends very much on customers to purchase the items.

Pete is now employed again but finds that his toymaking business has developed enough that he can't really let go of it. His toy items have become quite popular.

LESSON 12: BACKGROUND INFORMATION Continued

WHERE MIGHT SOMEONE PURCHASE THESE WOODEN TOY ITEMS?

The trade name of Pete's business is:

COUNTRY CRAFT
%Pete Garrison
8007 S.E. 60th Street
Mercer Island, Washington 98040
Telephone: (206) 232-3395

Some of the retail stores that carry his toys are:

The Christopher House
7010 - 35th N.E.
Seattle, Washington

Creativity Unlimited
11025 N.E. 8th
Bellevue, Washington

The Friendly Octopus
Pier 70
Seattle, Washington

SUGGESTED ACTIVITIES FOR LESSON 12

1. ACTIVITY: Class Discussion

   OBJECTIVE: Student will tell of one toy he has or has seen that he thinks is unsafe.

   MATERIALS: Attentive listeners!

   PROCEDURE: Lead a discussion that will point out the hazards that many modern toys present safety-wise. Among these items would be darts, items with sharp edges, items that could be swallowed by youngsters who would put them in their mouth, etc. In contrast, students may want to talk about some toys that are safe and fun for them to use.

2. ACTIVITY: Class Discussion

   OBJECTIVE: Student will tell one way he feels toys are good things for children to have.

   MATERIALS: Attentive listeners!

   PROCEDURE: Lead a discussion on the purpose of toys. Just what kind of toys do children really get interested in and stay interested in for a long time? Are expensive toys always the most liked ones? What kind of simple toys have the children had for many years that still bring them enjoyment? What kind of toys might they give to a friend? How would they know it would be a toy their friend would like? Etc.

3. ACTIVITY: Drawing

   OBJECTIVE: Student will design a toy that he would like to have.

   MATERIALS: Crayons, drawing paper

   PROCEDURE: Without much discussion, let the children have a chance to go through some of the experiences that perhaps Pete had as he tried to think of toys he could make. The children's drawings would not necessarily have to be of useful items. Let them use their imaginations in drawing a picture of their creation. They still will want to pay attention to safety factors. You may or may not want to have a sharing time. Maybe a sharing board can display the creations.

4. ACTIVITY: Making a Sailboat

   OBJECTIVE: The student will make a wooden sailboat which can float.

SUGGESTED ACTIVITIES FOR LESSON 12 Continued

4. MATERIALS: A rectangular piece of wood (any size), a dowel-like object which can be used as a mast, triangular piece of cloth (construction paper can be used), Elmer's Glue

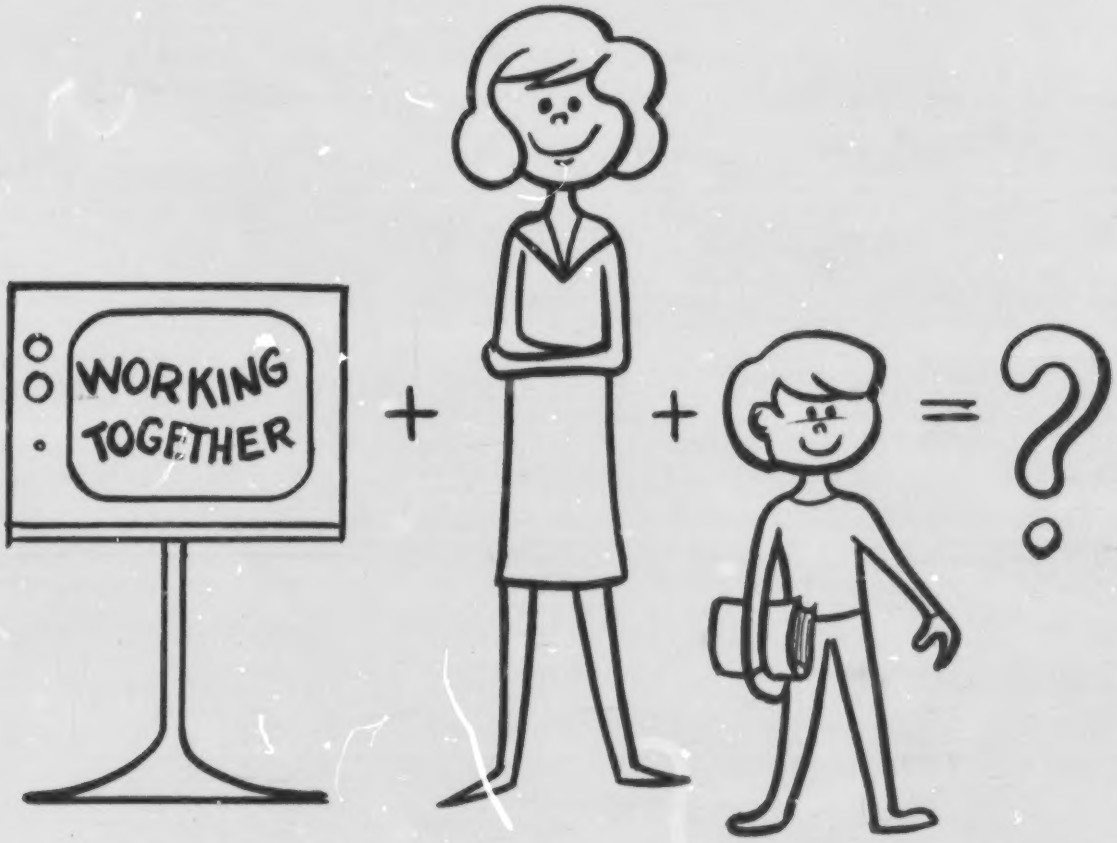
   PROCEDURE: Children may put a design on the sail. Glue the sail to the mast in an upright position. Paint if desired.

5. ACTIVITY: Classroom Toybox

   OBJECTIVE: The students will construct a toybox to be used in the classroom.

   MATERIALS: Six pieces of pegboard or heavy cardboard which will be used for the top, bottom and sides of the box, Masking tape, tacks, hammer, hinges, and paint

   PROCEDURE: Design the toybox -- What will it look like? How big will it be? How sturdy does it need to be? -- Attach the boards together to form a box. The materials you use to put it together will depend upon the material you have used for the sides and upon how sturdy you want it to be. Put hinges on one side of the top board so that it can be opened by lifting the top board. Paint and decorate according to your design.



We know that we have the subject matter to produce a meaningful, vitally important series. We also know that to have the funds appropriated to enable future programs of this nature to be produced, we too must become "accountable."

As you know, to be "accountable" means that we should be able to reach the goals we have set for ourselves.

WE WILL NEED YOUR HELP AND FEEDBACK IF WE ARE

TO DETERMINE OUR ACCOUNTABILITY!!

Please read our goals. We will be paying attention to them as we create the programs. Please keep them in mind as you use the series.

GOALS OF WORKING TOGETHER

The student will:

1. become aware of the interdependent nature of society.
2. become aware of how specializations contribute to the interdependent nature of our society.
3. gain the knowledge that most adults and many young people are involved in work.
4. become aware that people relate thoughtfully to their environment through occupations.
5. identify attitudes and feelings about the occupations shown on the program.
6. become aware of reasons why people choose their occupations.
7. identify ways that man has affected his environment.
8. become aware that decisions which relate to environmental quality must be made in every occupation.

We value your evaluation of WORKING TOGETHER. Some of you will be receiving evaluation forms from us during the school year. We look forward to your response.

Thanking you in advance,

Nancy & Lynn

LESSON 13: RAINDROPS KEEP . . . WHAT??

CONCEPTS: Weather information is necessary for people in various occupations.

A meteorologist is a trained specialist who uses scientific methods to study the weather. From these studies he or she makes forecasts.

A television weatherman or weatherwoman is usually a person on the staff of a television broadcasting station who receives information from meteorologists and passes this on to the public.

TOPIC: Communication

FOCUS: Meteorologist, National Weather Service
Ray Ramsey, KOMO Weatherman

LOCATION: National Weather Service
Seattle, Washington

Ray Ramsey, KOMO-TV, Channel 4
Seattle, Washington

BACKGROUND INFORMATION

WHAT IS A METEOROLOGIST?

A meteorologist is a specialist who uses scientific methods to study the weather. He usually has had four years of college training. The laboratory of the meteorologist is the atmosphere. His job is to know what conditions exist in the layer of air extending to about 20,000 feet above the surface of the earth and to tell in advance how these conditions will change. In some respects, his job is never finished because the weather is constantly changing!

WHAT ARE SOME OF THE INSTRUMENTS A METEOROLOGIST WILL USE IN HIS WORK?

A thermometer measures temperature.

A barometer measures air pressure.

A wind vane shows the direction of the wind.

An anemometer measures the speed of the wind.

A hygrometer measures humidity.

A rain gauge measures the amount of rain and snow.

LESSON 13: BACKGROUND INFORMATION Continued

To study the upper air a meteorologist will use balloons. When a balloon is released and rises, a meteorologist can measure the speed and direction of the upper winds by marking the changes in the direction of the balloon. This tracking is usually done by radar.

A radiosonde gets information about air above the clouds. It is a balloon carrying measuring instruments and a radio transmitter. As the balloon rises, the transmitter will broadcast pressure, humidity and temperature as it is reccrded on the instruments.

WHAT GOES ON IN THE FORECAST ROOM OF A WEATHER BUREAU?

Working as a team, weathermen throughout the country record their information and transmit it via radio, teletype and charts to centers all over the world.

In the Seattle area at the National Weather Service, approximately 250 facsimile sheets come in daily. These sheets indicate weather conditions in all parts of the world. They are received over electronic machines as wire photos. In looking at these sheets, the professional forecaster can interpret them in his own way. Other facsimile sheets are received that record traffic radar information. Hourly reports are received on the teletype from airports all over the United States.

There is a special teletype that reports warnings of hurricanes or tornados.

Extremely important informative data is transmitted to meteorologists via satellite. A polar-oriented satellite passes over our area three times during the daylight hours. Our earth is turning in orbit as the satellite goes over. We can receive information from the polar-oriented satellite and communicate information to it.

A satellite stores pictures. The pictures are taken electronically with a spin scan camera. Every 20 minutes it can take one picture. These pictures, taken every 20 minutes, can be combined and made into a movie showing clouds and fronts moving. This information is transmitted from the satellite over a radio, and made into a picture. Speed and wind directions can be determined by measuring the the distance between the clouds.

HOW DOES A TELEVISION WEATHER REPORTER GET HIS INFORMATION?

Ray Ramsey reports the weather on the early evening and late evening newscast on KOMO Television. This means that his first report must be ready by 5:30 p.m. Each day in the late afternoon, Ray goes to the National Weather Service. (Other weather reporters from the various television stations also receive their information from the National Weather Service.) At this time he talks to the meteorologist and receives the latest information according to the interpretations and forecasts. If he is to use a picture of the satellite report, he will take this picture with a Polaroid camera. Then it's back to the station to prepare his report. He will repeat his visit to the Weather Service before his evening broadcast.

LESSON 13: BACKGROUND INFORMATION Continued

WHAT ARE SOME OF THE SPECIFIC OCCUPATIONS DEPENDENT ON THE WEATHER?

A farmer depends on both rain and sun to make his crops grow.

A pilot must know the speed and direction of the wind because the wind carries the airplane with it. If he gets into fog conditions he won't be able to see what's under him or ahead of him. Freezing rain forms ice on the wings and if it overloads them it can destroy their lifting power. Thunderstorms with strong upward and downward winds could tear a plane apart.

Building and trades workers depend on good weather. House builders find it difficult to work if it rains or snows. Concrete workers pouring a foundation do not want weather that is too hot or too cold.

Different kinds of transportation (boat, train, bus, truck, car) can be slowed down or even stopped by rain, ice or snow.

SUGGESTED ACTIVITIES FOR LESSON 13

1. ACTIVITY: Communication, Self-Expression

   OBJECTIVE: Over a determined period of time, each student will make an appearance and report "on television."

   MATERIALS: Large cardboard carton (for teacher to cut)

   PROCEDURE: Make a mock television set from a large cardboard carton by cutting an opening for a screen. Tape the rough edges.

   A suggested routine would be to have a three-person team, one to be an announcer, one to be a weather reporter, and one to present a commercial (advertising an upcoming event in your classroom or school). Work as a group to develop a routine that best fits your classroom set up.

   Another hint for youngsters who are shy about speaking up -- just turn up the volume on the set!!

2. ACTIVITY: Looking for Information, Self Expression

   OBJECTIVE: Students will look for a weather report in a newspaper and bring it in to class. (Teacher could have extra copies of newspapers for students whose families may not subscribe to the newspaper.)

   MATERIALS: Newspaper that carries a daily weather report
   Monthly calendar

   PROCEDURE: Discuss the section of the newspaper where the weather report is usually found so students will know where to look.

   Have children take turns bringing in the newspaper weather report. Discuss the report with the class. Let the "weatherman" or "weatherwoman" for the day be responsible for making a "window weather check" to see if the paper weather report was correct. If so, put a YES on the class calendar; if not, put NO up instead.

   ADDITIONAL SUGGESTIONS:
   Many newspapers carry the weather map. Although difficult for students to completely understand, it would be interesting for them to look at and be aware of it. Perhaps you might also want to draw their attention to the temperatures in different parts of the country -- places students may have visited on vacations or lived.

3. ACTIVITY: Making Clouds

OBJECTIVE: The class will conduct an experiment in making clouds.

MATERIALS: Hot plate
Pan of boiling water
Long-handled metal spoon

PROCEDURE: Heat water to a boiling point. The air over the pan gets hot and rises. As the air rises away from the pan it begins to cool. Some of the water vapor from the pan begins to change back into tiny droplets of liquid water. They make a little cloud in the air over the pan.

*The same thing happens on our earth. Hot air rises away from the hot earth and cools. Water vapor begins changing back to liquid water. Presto! Clouds!!

Extend the activity by holding a cool, dry long-handled metal spoon in the cloud over the pan of boiling water. Condensation will occur. If the drops of water get big enough and heavy enough, it will RAIN over the pan.

4. ACTIVITY: Creative Art

OBJECTIVE: Each student will illustrate examples of the three basic cloud forms.**

MATERIALS: Actual pictures of cloud forms
Various art materials -- crayons, paint, construction paper, cotton, cotton, etc.

PROCEDURE: Discuss the three basic cloud forms. It would be best to have actual photographs of these as examples to avoid misconceptions. Then let students create their own samples, labeling each with the correct title and one or two descriptive words.

**Cirrus Clouds (streak clouds) are high, wispy formations of ice crystals.

**Cumulus Clouds (heap clouds) are white, fluffy, and usually associated with clear visibility and fair weather.

**Stratus Clouds (sheet clouds) are lower, darker formations that appear as a dense layer. These clouds may blanket the entire sky and precipitate rain within a short time.

LESSON 14: IT'S RAINING! IT'S POURING!

CONCEPTS: Most occupations require people to work, no matter what the weather might be.

People who work out-of-doors during wet weather need proper clothing.

The manufacturing of rainwear requires teamwork.

TOPIC: Rainwear Manufacturing

FOCUS: Production Line

LOCATION: George A. Johnson Company
Ballard, Washington

BACKGROUND INFORMATION

WHAT ARE THE STEPS IN MAKING RAINWEAR AT THE JOHNSON COMPANY?

First of all, the company receives huge bolts of nylon and cotton material. The cotton is dipped in a yellow rubber-based dye, and then dried. The material is brought into a room with a long table where the cutter works. The cutter lays the material across the table and then folds it by running the cloth up and down the table until there are 70 layers of cloth laid on the table! Obviously, to cut 70 layers of heavy cloth he cannot use a pair of scissors so he uses a type of jig saw. Patterns of each garment have been made of a sturdy cardboard. The cutter lays the pattern pieces onto the cloth making use of as much of the material as possible. He traces around the pattern and then turns on his saw. He carefully cuts the pieces out, remembering that one goof equals 70 goofs!

From here the cut material travels upstairs to a room filled with long tables. Ten or twelve women are busy glueing the pieces of the garments together. Each person glues one part of the garment and then it is passed on for the next lady to glue a different seam or section. The glue which is used is like rubber cement. The cloth is stacked so that only the seam to be glued is exposed. The hem or seam is then glued together and left to dry. It is important that the room is neatly organized so that the articles will lay evenly and dry correctly. These people can do between 35 and 40 jackets each day. Proper ventilation is also important in this room.

Next, the coats, jackets, aprons, etc. need to be waterproofed. This is done by two men. First they mix the ingredients to make the solution according to a formula. To insure that every inch of the garment is waterproofed, the company has fifty statue-like "tin men" over which the material is stretched. The workers dress the tin men and the jackets are now ready to be painted. The men don their paint brushes and completely cover all of the areas. After the first coat of paint is dry a second coat is applied. The coats are then transported into a room-sized kiln and are kept there at 180 degrees for five hours.

LESSON 14: BACKGROUND INFORMATION Continued

After the garment is waterproofed it goes to the people who sew collars onto it and add finishing touches such as gromets and buckles.

Orders are filled and rainwear is sold.

WHO USES THE PRODUCT?

Anyone who works outside during inclement weather uses the product. You will probably see construction workers, policemen, fishermen, safety patrolmen, and cannery workers wearing Johnson-made rainwear.

SUGGESTED ACTIVITIES FOR LESSON 14

1. ACTIVITY: Assembly Line

   OBJECTIVE: Each student will become a part of an assembly line by making one item for the paper doll rain man.

   MATERIALS: Construction paper, scissors, crayons, glue

   PROCEDURE: Discuss the importance of each person doing their best job as quickly as possible. Have the following jobs written on slips of paper so that they can be chosen from a hat:

   > Body cutter, raincoat cutter, raincoat gluer, rain pants cutter, rain pants gluer, buttons, hat cutter, hat gluer, boot cutter, boot gluer, face colorer.

   You will need to arrange the children into committees so that everyone has a job. Your job will be to make patterns and be "foreman."

   Show the children the final product which they are to manufacture. Set up stations. Make sure each worker understands his part of the operation. It might be fun to time the children so that they will be speedy. At the end each child should have a paper doll to take home.

2. ACTIVITY: Art Project

   OBJECTIVE: Each student will draw a picture of animals raining from the sky rather than water, and tell how it came to rain the way he has shown.

   MATERIALS: Drawing paper, crayons

   PROCEDURE: Most children may have heard the expression, "It's raining cats and dogs." Use this statement for a combination art and language assignment. A child chooses two other animals or objects and makes an appropriate drawing. He then tells how it came to rain the way he has shown.

3. ACTIVITY: Mobile

   OBJECTIVE: Each child will construct a mobile.

   MATERIALS: Construction paper, old magazines, string, wire or wood, crayons

SUGGESTED ACTIVITIES FOR LESSON 14 Continued

3. PROCEDURE: Discuss with the students the effects rain has on our world. From a wooden or wire mobile frame, children hang two-sided raindrops of their own design -- one side showing a happy idea (plants growing), and the other a sad idea (flooding). How many effects can the class illustrate?

LESSON 15: SNOWPLOW KNOWHOW!

CONCEPTS: Winter sports provide recreation for millions of people in the United States.

Skiing is a sport that can only be mastered by training and practice.

Many school districts sponsor ski schools that allow students the opportunity to be taught how to ski by qualified instructors.

TOPIC: Recreation

FOCUS: Ski Instructor

LOCATION: Bellevue Ski School
Crystal Mountain, Washington

BACKGROUND INFORMATION

HOW DOES A PERSON BECOME A SKI INSTRUCTOR?

We spoke with Joe Harlacher who is the director of the Bellevue Ski School and a Ski Instructor Certification Examiner. The Bellevue Ski School hires ULLR, Inc. to train its ski instructors.

The staff of ULLR provides instruction and includes over 80 instructors certified by the Pacific Northwest Ski Instructors Association.

The ski instructors' program is a well organized one.

Just because a person knows how to ski well is no guarantee that he will be selected as an instructor. Every year, approximately 130 people try out for the ULLR program to instruct with the Bellevue Ski School. Only 30 to 40 are selected.

1. The first night of training is an open meeting in October when all interested people attend. This is an orientation time where people find out what is expected, what teaching progression is used and what philosophy the ski school upholds.

2. Another session involves going to the mountains. This is usually in late November. A person is evaluated in three areas -- free skiing, maneuvers, and a role-played teaching situation. From these evaluations a group of top skiers and a group of top teachers are selected. From these top skiers, the first 50 are evaluated for teaching ability. From these evaluations, 40 people are selected (on the basis of skiing and teaching ability) to train as ski instructors.

3. Training involves class sessions evening lessons (including the philosophy of teaching) and on-the-snow lessons.

LESSON 15: BACKGROUND INFORMATION Continued

4. Only ten trainees are selected each year to get a class of students to instruct on their own. The other trainees serve as teaching assistants to help with the elementary school students or as alternates to fill in for an instructor.

5. During the skiing season, on-the-job training occurs as well as special clinics that are oriented toward teaching skiing.

6. At the end of the season there is training for a certification test. An exam is taken. There are different levels of proficiency. Top certification would enable a person to direct a ski school.

7. A person has to have a job before he can be a registered instructor.

HOW OLD ARE THE INSTRUCTORS WITH THE BELLEVUE SKI SCHOOL?

Out of the 170 instructors, approximately 30 are in high school, 70 are under 30 years old and 60 are over 30 years old. The enrollment of students in the 1971 Bellevue Ski School was 2,850. There were 630 high school students, 1,800 junior high school students, 280 elementary school students and 140 adults who served as chaperones.

Transportation for the ski school is provided by Metropolitan Transit and other commercial busses. The Bellevue School District's busses are provided when other busses are not available.

WHO DECIDES WHERE A SKI SCHOOL WILL BE LOCATED?

Since the Bellevue Ski School is co-sponsored by the school district and participating schools, representatives of these groups comprise the Bellevue Ski Council to determine ski school policy such as site selection. Each year representatives from the council meet with the director and area operators to develop a program which best suits the students' needs.

WHAT KINDS OF THINGS WILL A SKI INSTRUCTOR TEACH HIS STUDENTS?

For a beginner's class, an instructor will want to familiarize his students with their equipment, helping them to feel comfortable with it. He teaches them how to carry their skis, how to put on their boots, skis and poles, how to walk on their skis, how to get up after falling down, how to shift their weight, how to edge their skis, how to plant their poles, how to do the different kinds of turns used in skiing, how and at what time to perform each skiing maneuver, and how to stop!!

LESSON 15: BACKGROUND INFORMATION Continued

A good instructor will encourage his students as he teaches them. It takes time to build and maintain confidence. He reminds them that practice makes skiing easier and more fun. Each step must be practiced thoroughly before going on to the next step. Each person learns at a different pace and an instructor must be sensitive to this. Classes are set up so that all the students in the class are at about the same skill level.

WHAT KINDS OF EQUIPMENT CAN BE FOUND AT A SKI AREA?

Part of a ski instructor's teaching involves safety measures and proper use of the equipment and machinery in a ski area.

Ski areas are divided into a variety of slopes ranging from very slight hills all the way up to steep inclines. It is important to know the skills necessary to go to the different areas (how to get on and off rope tows or how to get on and off uphill chair lifts). Skiing on a slope that is too difficult can mean potential injury to a student and to others on the slopes. Another part of skiing instruction is becoming accustomed to skiing in various snow conditions.

SUGGESTED ACTIVITIES FOR LESSON 15

1. ACTIVITY: Discussion and Illustration

   OBJECTIVE: Each student will illustrate a sport that is popular during the winter months.

   MATERIALS: Paper, pencil, crayons, magazines, newspapers, scissors

   PROCEDURE: Discuss with your class some of the sports that are popular during the winter months (skiing, sledding, ice skating, hockey, indoor swimming, bowling, basketball). Include in the discussion such things as the kinds of equipment needed for each sport, the kind of clothing needed, whether it is a sport that needs a team or whether it can be enjoyed individually, and the safety rules that must be observed. Ask the children to bring in pictures from magazines or newspapers that illustrate these different winter sports. Some students may want to illustrate their own. Create a bulletin board, labeling the different sport activites.

2. ACTIVITY: Role-Playing

   OBJECTIVE: Each child will participate either as an actor, listener or idea man in illustrating an occupation.

   MATERIALS: None

   PROCEDURE: A ski instructor has a seasonal job. Discuss with your students other occupations that are seasonal. To what degree are people dependent on the weather? When you have discussed quite a few, let the children divide into groups.

   Each group should have no more than five students. Write each occupation discussed on a separate piece of paper. Let each group draw a title from a box. Let them plan together the way they will present the occupation to the group in a role-playing situation. They may want to keep their occupation a secret and see if fellow classmates can guess the occupation through the presentation.

   (Suggestions of occupations: sports players, migrant workers that are responsible for harvesting fruit, ski instructors, commercial fishermen, life guards, store Santa Claus helpers.)

3. ACTIVITY: Art Project

   OBJECTIVE: Each child will illustrate a picture of what he likes to do on cold snowy days.

SUGGESTED ACTIVITIES FOR LESSON 15 Continued

3. MATERIALS: Large sheet of white drawing paper, large piece of dark construction paper, crayons, scissors

PROCEDURE: Discuss some of the things people like to do on cold snowy days. Be general. Then ask the students to close their eyes and think silently to themselves about things they like to do. Give them a moment or two. When they open their eyes, ask them where in their bodies they saw a picture of themselves doing their favorite things. A hoped for response would be that they saw pictures in their minds. Tell them that there is a special way they can share their mind's eye pictures. Have each student draw a huge outline of his head, either front view or side view. Put in ears, eyes, mouth and nose but leave the upper head area free. In this space have students draw the pictures of what was in their minds. Cut them out when finished and mount on dark paper. Let students share their pictures when finished.

4. ACTIVITY: Chalk Drawing

OBJECTIVE: Each student will illustrate his conception of that "Old Man Winter."

MATERIALS: Colored contruction paper, white chalk, crayons

PROCEDURE: Present the students with some old expressions that have come down over the years and that are very common to our language, e.g. "it's raining cats and dogs," "fit as a fiddle," "the early bird catches the worm." Explain that sometimes people give human names to objects or conditions in nature, e.g. Old Man River, Old Man Time, Old Man Winter. Since it is winter, ask the students to describe how they think Old Man Winter would look. What kinds of clothes would he wear? What kind of hair would he have? Where would he be? What might he be carrying? What might he be looking at? What might he be looking for?

Let the children illustrate their idea using different colors of construction paper. Remind them that some colors will not show up on particular colors of construction paper. The darker colors of paper would be best since the children will be using white. Tell the children that any place they decide to use white, they can use white chalk to give their picture a different texture. If they are to cover large areas with the chalk, have them save that until last. You may want to spray a sealer on the finished pictures to avoid smudging.

LESSON 16: FASTEN YOUR SEAT BELTS!

CONCEPTS: A commercial airline pilot is constantly going to school and learning techniques to insure safe flying.

Stewardesses are trained to meet passenger needs.

An airport relies on many people working together to get passengers safely to their destination.

TOPIC: Air Transportation

FOCUS: Pilot, Stewardess and Clean-Up Crew

LOCATION: United Air Lines
Seattle, Washington

BACKGROUND INFORMATION

HOW IS A COMMERCIAL AIRLINE PILOT TRAINED?

Most commercial airline pilots are "hooked" on flying before they begin their training. The first step is to go to school, study, pass tests, practice flying with a licensed pilot, pass tests, fly a small airplane solo, pass tests and then receive a private pilot's license.

The next step is to decide to become a commercial pilot. United Airlines has a school for pilots in Colorado. Here they train prospective pilots, licensed commercial pilots who need to learn about newer aircraft and licensed commercial pilots who are there to take a refresher course.

The men go through quite an extensive program ranging from large group classes to one-to-one teacher-student discussions and tests. The most modern equipment is used to enable the student to get the vital information from all types of stimuli. Many simulators are used to give the pilot a feeling that he is performing in an actual situation. There are simulators for picking up and decoding weather conditions, operating the board which houses the many indicators a pilot must be familiar with in the cockpit and an actual model of the cockpit. The cockpit model can simulate anything from "smooth sailing" to the most hazardous conditions dreamed of.

Once the pilot has proved himself by passing written, oral and performance tests he is ready to receive his commercial pilot's license.

Be it known that an airline pilot is well trained before stepping into the cockpit!

LESSON 16: BACKGROUND INFORMATION Continued

DOES A STEWARDESS GO TO SCHOOL TOO?

Yes, United Airlines Stewardess school is located in Chicago and all prospective stewardesses attend one of the four-week sessions. Here the stewardesses are taught in-flight meal preparation, clean-up procedures, pre-flight checks of the aircraft cabin, equipment and supplies, beauty tips, emergency procedures and in general ways to make passengers feel comfortable.

When a stewardess has graduated she puts in a bid for an assignment. Seniority determines where she is placed. Seniority will be part of determining the assignments throughout her career.

DOES THE STEWARDESS DO ALL OF THE CLEAN-UP ON THE PLANE?

No, the airline hires a group of people to be part of the clean-up crew. The crew "invades" the aircraft between flights carrying vacuum cleaners and supplies. The crew quickly disposes of the litter left by passengers, cleans the galley, aisles, and toilet facilities, and fills supplies which have been depleted. All this must be done quickly and efficiently so that the passengers on each flight get excellent service.

WHAT OTHER JOBS ARE INVOLVED IN AIRPORT EFFICIENCY?

Ground Crew
The men on the ground are responsible for loading and unloading the plane. The little tractor-like machine which they ride around in is called a "tug." Tugs are used in transporting cargo from warehouses to the plane and for driving the stairways to and from the plane.

United States Health Service
The main duty of the U.S. Health Service is to examine passengers to be sure that none of them has highly contagious diseases. They also make sure that the cabin is kept free of dangerous germs by spraying the plane between flights.

Immigration and Naturalization Service
The most important task of the Immigration Service is to examine the papers of people of foreign birth who want to become citizens.

Customs
Customs inspectors open baggage to be sure that people are not trying to smuggle diamonds, gold, drugs or anything else into the country.

Mechanics
These people are highly skilled and know the airplane engine so well that they can literally take one apart and put it back together again! After each 800 hours of flying the plane is put into the hangar and carefully checked by these men.

LESSON 16: BACKGROUND INFORMATION Continued

F.A.A. -- Federal Aviation Administration
Men from this administration are "safety men." They will visit the hangar and watch repair or maintenance work to make sure it passes certain criteria.

Ticket Agents
The passenger gives his baggage to the ticket agent, selects his seat and then he is all set to board the aircraft.

Weather Experts
These people check instruments and inform the pilot as to the best routes and which way the head winds, tail winds, or cross winds are blowing.

Flight Kitchen
Most of the large airline companies have their own flight kitchens. They prepare all meals and snacks which will be served in flight. Here they pack the meals in containers which are all ready to be re-heated and served.

U.S. Mail
Mail comes in by airplane or truck and is sorted into bins for certain cities or countries. After sorting the mail is loaded aboard the plane.

Cargo Department
Workers in the cargo department weigh all cargo and then load it in the plane so that the weight is equally distributed.

Flight Dispatcher
He is the link between the weather man, control center, weight experts and the pilot. He makes sure that everyone knows what to do and how to do it.

Fuel Tank Farm
The fuel is stored in a section which is located a long distance from the runway for safety reasons. Most of the people who work in this section are there for security. All of the airlines get the fuel from this fuel tank farm.

Control Tower
The people who work in the control tower know where all planes are flying at all times. They must concentrate on gauges, radar screens and instruments so that potentially dangerous plane crashes are avoided.

SUGGESTED ACTIVITIES FOR LESSON 16

1. ACTIVITY: Experiment

OBJECTIVE: The student will demonstrate the thrust of jet planes by performing the following experiment.

MATERIALS: Vinegar, water, plastic bottle, cork, round pencils, table top, tissue paper, baking soda and a balloon.

PROCEDURE: Fill the plastic bottle half full of vinegar and water. Place a half teaspoon of baking soda in a square of tissue paper. Fold the tissue into a small roll and drop it into the bottle. Put a cork stopper into the mouth of the bottle.

Lay the bottle on several round pencils, or dowels. The gas produced by the soda and vinegar will push in all directions. Finally the pressure will become great enough to blow out the stopper. The gas will rush out of the mouth of the bottle. The bottle itself will roll over the pencils in the other direction.

A quicker way to demonstrate jet action is to blow up a balloon and tie the mouth. Place the balloon on the table. The air in the balloon, pushing equally in all directions, expands the balloon. There is no motion, however. The balloon just sits there because all the forces are equally balanced.

Now open the mouth of the balloon. The pressure on the front of the balloon is still there. The air rushing out the back of the balloon no longer meets any resistance from it. This unbalanced force results in a forward thrust. Wheeeeee! The balloon takes off like a streak. The balloon will go in a direction opposite to the direction the air takes when moving out of the mouth of the balloon.

2. ACTIVITY: Role Playing

OBJECTIVE: Each member of the class will assume the role of a person at an airport.

MATERIALS: Props (real, creative or make-believe)

PROCEDURE: Chose children to play the part of passengers going on a trip. Assign other members of the class to play the part of each of the people that the passenger relies on in order to reach his destination. Lead the children into role playing, encouraging them to use props, explain to each person exactly what he needs and to keep in mind that the object of the game is to have the passenger reach his destination safely. Role play from the time the passengers arrive at the airport, check their baggage, board their flight, in flight to touchdown.

LESSON 17: BLACK AND WHITE AND READ ALL OVER

CONCEPTS: Printing is the process of making a number of identical copies of any design or pattern.

Information we use every day is communicated through a newspaper.

TOPIC: Communication

FOCUS: Newspaper Printing Process

LOCATION: News Publishing Company
Seattle, Washington

BACKGROUND INFORMATION

WHAT NEWSPAPERS DOES THE NEWS PUBLISHING COMPANY PRINT?

Once a week the News Publishing Company prints the Ballard News Tribune, the University Herald, the Aurora Shoreline Journal, the Northgate North Seattle Journal. Twice a week they print the Seattle Shopping News.

Each of these papers has its own staff of editors and writers. Their material is brought to the News Publishing Company for printing.

WHAT HAPPENS TO THE MATERIAL WHEN IT IS BROUGHT IN FOR PRINTING?

The copy comes in in rough form. From this rough state it is converted into pieces of printed material. These pieces are put on paper to make a complete ad. Advertisements are laid out first because the space they will take is already known. News portions of the paper fit in around these ads.

These layouts are converted to negative forms via a photographic process called photo-lithography. The image of words and pictures, now on a prepared metal plate, is wrapped around a cylinder. The cylinder is dampened and inked. The ink sticks only to the words and pictures and the image is transferred to the newsprint as the paper rolls through the press.

WHO ARE SOME OF THE WORKERS AT THE NEWS PUBLISHING COMPANY?

One man works as an operator at a Photon machine setting up type. He sits in front of a keyboard that looks like a big typewriter keyboard. Each key represents a letter, a number or punctuation. The machine also has the capability to determine the size of type and whether it will be dark or light type. The operator is responsible for setting up the proper amount of spacing. As the operator sets up the ad, it is automatically transferred to film from the keyboard part of the machine. When the film is developed (almost immediately) there is a long horizontal proofsheet with the ads listed on it.

When these ads are proofread and approved, other workers take over for the "paste up" part of the process. They fit the pieces together on a page. It's almost like fitting the pieces of a puzzle together.

Workers take a negative picture of the assembled page. With a metal plate, a negative form and light, a camera takes a picture and the image is transferred onto a lithoplate. With this negative form, all the dark places on the original page become blank. When printed, it is these blank areas that absorb the ink and give us our image.

Men work in the printing room running the press.

Papers are taken to the carriers for distribution.

HOW MUCH PAPER IS USED IN PRINTING THE NEWSPAPERS?

Newsprint comes on large rolls. At the News Publishing Company, one roll is one-half ton. It takes 40 of these rolls to print one issue of the Seattle Shopping News. This will yield 164 thousand copies of the paper.

Five workers operate the huge printing press. Paper which runs from both ends is printed, folded in the middle section of the machine, folded again as it nears the end of the machine, cut off and stacked and tied.

SUGGESTED ACTIVITIES FOR LESSON 17

1. ACTIVITY: Comparing Newspapers

OBJECTIVE: Each student will have the opportunity to look at a small community oriented newspaper and at a large metropolitan newspaper.

MATERIALS: Four or five copies each of a community newspaper and a metropolitan newspaper.
Paper, pencil

PROCEDURE: Working in small groups, have the students look through both kinds of newspapers. Gear them before hand to look for similarities and differences. Which paper is larger? Why might this be so? Which paper has more pictures? What kinds of pictures are in each newspaper? What do the pictures represent? Which paper has more advertisements? Why is this so? Do both papers have comic sections? Sport sections? From looking at the pictures, can the students tell what one difference might be in the news that is presented in each newspaper? (One is world and state oriented while the other has news of a specific local community.)

When the students have finished studying the newspapers, a follow-up activity might be for them to select a picture, a cartoon, or an advertisement, cut it out, and write a short news report of what news they think the picture is presenting.

2. ACTIVITY: Awareness of Different People's Interests

OBJECTIVE: Each student will take a poll of different members of his family to find out which section of the newspaper they read first.

MATERIALS: Dittoed sheet listing the different sections of the paper made in the form of a check list

PROCEDURE: With your students, make a list of the different sections found in a city newspaper. If they look at the newspaper, which section do they like best? Explain that all people have different reading habits when it comes to reading a newspaper. If they have a lot of time, they may sit down and read it from front to back. If they don't have time or interest in all the news, they may scan the paper and pick out articles that interest them. They may just focus in on particular information that they may want to know about quickly.

Just to show the various reading habits, ask the students to be part of a poll-taking project. Tell them you will type up the information they want to get on a ditto sheet and pass it out. They are to take it home and check off the appropriate boxes, bring it back to school and then the class can tally up the results.

2. PROCEDURE: Continued

Once the sheet is typed up, go over it with the students. A large sample sheet could be drawn on the chalkboard as an illustration of what is to be done.

NAME:	STUDENT	PARENT	PARENT	BROTHER	SISTER
SECTION OF NEWSPAPER:					
Front Page					
Weather Report					
Sale Advertisements					
Editorial Page					
Women's Page					
Dear Abby/Ann Landers					
Foods and Recipes					
Sports					
Movies and Art					
General News					
Comics					
Maritime News					
Television					
Classified Ads					
Vital Statistics					

LESSON 18: NEWS IS MY BAG

CONCEPTS: People in a community depend on the paper boy to get local news.

TOPIC: Community Service

FOCUS: Jim Brownfield, Newspaper Boy

LOCATION: Federal Way, Washington

BACKGROUND INFORMATION

WHAT ARE THE RESPONSIBILITIES OF A PAPER BOY?

In short, a paper boy's responsibility is to deliver his newspapers to his customers before a certain time and to collect money from the customers each month. This is the part of the job all of us see.

WHAT DOES A PAPER BOY HAVE TO DO IN ORDER TO CARRY OUT THESE RESPONSIBILITIES?

When Jimmy gets home from school at 3:00 p.m. he has a bundle of newspapers waiting for him on his front steps. These were delivered by a man from the Federal Way News.

Every paper boy is given several options on just how he will deliver his papers. He can take the papers on the porch and fold them, tie them with rubber bands or leave them flat. Jimmy says that he folds them when he has time, usually doesn't use rubber bands because they cost about 35¢ for 500; and, if he's in a hurry he will leave the papers flat and simply lay them in front of each door on his route. He is learning that many decisions depend on time and money.

Each of Jim's fifty-five customers depend on him and expect him to deliver the paper by 5:30 p.m. Now that Jimmy has delivered papers for one year he knows that he must budget his time because there might not be enough time between 3:00 and 5:30 to swim, roller skate, drink a glass of milk, play with his buddies and deliver papers. That's a tough job in the beginning for a ten-year-old boy!

Jimmy gets billed the second week of each month so he does his collecting during the first week of the month. He collects $27 from customers and will receive about $18 each month. Federal Way News is delivered usually two days each week so that means that about $2.25 goes into Jimmy's pocket each day that he delivers the paper.

HOW DOES A BOY GET TO BE A PAPER BOY?

Jimmy decided that he needed money to buy a bicycle, go to the swimming pool, go roller skating and buy "fun stuff." He had watched the big kids delivering the paper and, after asking his parents, he went down to the newspaper office and asked for a job. He got the job and along with it many new responsibilities.

SUGGESTED ACTIVITIES FOR LESSON 18

1. ACTIVITY: Folding Newspapers

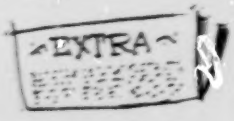
OBJECTIVE: Each child will fold a newspaper in the following manner.

MATERIALS: Old newspapers

PROCEDURE: Use one newspaper section, about twelve pages (six paper thicknesses) thick.

Fold in half as you would see a newspaper on the newsstand.

Fold in half again.



Fold left hand corner down. Fold only half of the pages in the right hand corner down.

Turn this over. Fold this sheet into thirds, bringing sides to center. Lock pointed end into the pocket formed at the other end.

2. ACTIVITY: Discussion

OBJECTIVE: Each child will tell about one way he might earn money.

MATERIALS: Attentive listeners

PROCEDURE: Begin the discussion by asking, "If it were your birthday today, what would you ask for?" Continue with "How do you get these kinds of things when it's not your birthday? Do you earn money? How do you earn money? What does earn mean?"

SUGGESTED ACTIVITIES FOR LESSON 18 Continued

3. ACTIVITY: Throwing Newspapers

OBJECTIVE: Each child will participate as a team member who aims a folded newspaper into a waste basket.

MATERIALS: Newspaper

PROCEDURE: Divide group into two teams. One point is given to the team each time one of its members makes a basket. This might also be done with a "Who can throw it the farthest?" approach. Discussion should follow which leaves the children with the idea that a paperboy needs to practice and develop his skill in throwing papers so that he will get the paper on the porch the first time he throws it.

LESSON 19: PLAY IT AGAIN, MORTON

CONCEPTS: Music is an important part of a society's culture. One way it is transmitted is over a radio broadcasting system.

A radio station is maintained financially through the support of sponsors and therefore broadcasts commercials that will make the public aware of a sponsor's product.

TOPIC: Broadcasting

FOCUS: Jack Morton, Disc Jockey

LOCATION: KOL, 1200 on the dial
Seattle, Washington

BACKGROUND INFORMATION

WHAT DOES THE TERM "DISC JOCKEY" MEAN?

"Disc" refers to the flat circular plates that are the phonograph records. "Jockey" comes from the historical name for a wandering minstrel or vagabond. A "disc jockey" is the person who presents a music oriented radio program that is broadcast from a transmitting station. Listeners tuning in will hear not only musical selections and some personable chatter, but also commercial ads for a variety of products.

WHAT ARE SOME OF THE RESPONSIBILITIES OF A DISC JOCKEY?

Jack Morton sees his job primarily as trying to play as much music as possible while still communicating information to his morning listeners. It is a matter of organizing time so that commercial content is presented to satisfy the sponsor but not offend the listener.

When every commercial is aired, Jack records the information on a log sheet. This states what was broadcast and at what time. Jack is also responsible for keeping his listeners posted with traffic bulletins. Jack has a large listening audience but speaks to the microphone as if it were one close friend. This is why he comes across to his listeners in such a personal and friendly manner.

HOW DOES A DISC JOCKEY DECIDE WHAT RECORDS TO PLAY?

Jack is on the air from 6 a.m. until 10 a.m. In programming his music, he takes into consideration the listening audience. At this time of the day it will include people who are getting ready for work, people who are driving to work, people who are getting ready for school, etc. He has stacks of records that are arranged according to the style of music. One stack has instrumentals, another has vocals

that are lively, another has vocals that tend more toward the ballad variety, another stack features vocal groups and another stack is composed of old favorites. Having these stacks handy, Jack can quickly make a selection and organize the music so there is a variety throughout his four hours on the air. The music hopefully appeals to all members of his listening audience. Since KOL is a popular music station, Jack pays close attention to the current songs that are on the Top 40 Charts. He includes a majority of these in his programming.

WHO MAKES THE COMMERCIALS THAT ARE BROADCAST?

Commercials are made with the hopes that the product they are advertising will appeal enough to the people listening to the commercial that they will buy the product. Corporations, companies, or individual firms pay money to have their product advertised via radio commercials. In other words, KOL receives money for both producing and broadcasting commercials. About one half of the commercials aired are produced by the staff of KOL. This also includes the KOL jingle that advertises the call letters of the station. The sponsor determines the time slot during which his commercial will be heard. The cost of the commercial depends on the time during which it is aired. Commercials heard in the very early morning and late, late evening are not as costly as those aired during prime time when more people are listening. A radio station is allowed up to 16 commercial minutes an hour. They may or may not use that much time. The commercials are recorded on cartridge tapes so they are easy for the disc jockey to handle and get quickly on and off the air.

DOES A DISC JOCKEY GO THROUGH ANY SPECIAL TRAINING?

A disc jockey broadcasts his program from a control board which includes a microphone, microphone switches, turntables for the records and turntable switches. In order to operate this technical equipment, many radio stations require their disc jockeys to have a current FCC (Federal Communications Commission) license. This means that they have the appropriate technical skills for this job. Some disc jockeys may have had special training but most often they learn by doing. Their actual "on air" experience is probably the most valuable.

WHAT DOES A DISC JOCKEY DO WHEN HE'S NOT ON THE AIR?

Jack Morton's morning show is on the air from 6 a.m. until 10 a.m. This means he arrives at KOL at 5 a.m., prepares for his program and is on the air for four hours. After 10 o'clock a variety of things may happen. Jack said that there is no such thing as a routine day. He may put in anywhere from five to fifteen hours. His other involvements include producing and participating in commercials, calling on service accounts, working with other people to prepare comical bits for the program, and occationally making personal appearances.

LESSON 19: BACKGROUND INFORMATION Continued

Jack Morton's father was in broadcasting in California and so Jack grew up with a feeling for the profession. He has been working in the Seattle area since 1963 and has been at KOL since 1971.

WHAT OTHER WORKERS HELP DURING THE BROADCAST OF A PROGRAM?

Terry McManis, a production director at KOL, produces both commercials and the Jack Morton show. He also helps Jack in another way. He is the "Jimmy Stalwart" personality who carries on various conversations with Jack during his program. These "bits" provide comedy breaks from music and commercials and are popular with Jack's listeners. Terry also produces the Friday commentaries that are a part of the "Let Me Say This About That" segments.

Stevie Ager, promotion director for KOL, is the "Zodiac Lady" who writes and produces her daily astrological forecasts at the station. These are heard on the Morton show.

Every hour a news report is given to keep listeners aware of world happenings. On the half hour, sports news is included with the capsule news report.

SUGGESTED ACTIVITIES FOR LESSON 19

1. ACTIVITY: Classifying Music

   OBJECTIVE: Each student will contribute one idea about a song style.

   MATERIALS: Variety of music, songs sung by the group from their repertoire, recordings on records (children's songs, popular songs, classical music)

   PROCEDURE: Discuss with the class the important decisions a disc jockey must make in varying the style of music he presents to his listeners. Each child in the class has his favorite kind of music. Let the children experience what it would be like to program some of this music. Sing a few of the class favorites and list them on the board. The following day select students to bring in one favorite record. Play these and add them to your list. The teacher may want to add a couple of her favorites. When the list is complete, take a look at the selections in the light of their style and of the mood they create. Let the students suggest ways they would arrange the selections if they were presenting them as part of a radio program.

2. ACTIVITY: Listening

   OBJECTIVE: Each student will listen to a portion of the Jack Morton radio program.

   MATERIALS: Radio

   PROCEDURE: Set aside a certain amount of morning time before 10 a.m. to listen to Jack Morton on KOL 1300. Listen for the different elements that were presented and shown on WORKING TOGETHER and later discussed with your class. Talk about these after you've finished listening.

   As a contrast you may want to tune in a different disc jockey either in the morning hours or in the afternoon to see how his format may differ.

3. ACTIVITY: Writing a Letter

   OBJECTIVE: Each child will express himself in a letter written to Jack Morton.

   MATERIALS: Paper, pencil, crayons

   PROCEDURE: Let children express some of their feelings by writing a letter to Jack. Illustrations may be a good means of expression also.

SUGGESTED ACTIVITIES FOR LESSON 19 Continued

4. ACTIVITY: Simulation of a Radio Program

OBJECTIVE: Each student will participate either as a performer or a listener in the production of a short radio program.

MATERIALS: Determine these as to the skills of your students. Some suggestions: record players, records, tape recorders

PROCEDURE: Discuss the different elements that make up a disc jockey's program. Let the students work in small groups to prepare a short (10 min.) program. They may want to do this by using records, taped commercials, live singing, news reports, or a live comedy break such as someone telling a joke. The teacher may want to choose the individual to be the disc jockey.

LESSON 20: WOODEN MEMORIES

CONCEPTS: The culture of a people can be continued if it is handed down to new generations.

The art of woodcarving is an important part of the Lummi Indian tradition.

TOPIC: Northwest Indian Craft

FOCUS: Morrie Alexander, Woodcarver

LOCATION: Bellingham, Washington

BACKGROUND INFORMATION

WHO IS MORRIE ALEXANDER?

Morrie is a Lummi Indian who has been carving for more than 35 years using the techniques passed down from other generations of Lummis. He was taught by his grandfather, a master carver, canoemaker and silversmith.

ARE THE LUMMI INDIANS A NORTHWEST TRIBE?

Orininally living on the San Juan, Orcas, Lopez and Lummi Islands, the Lummi Indians were once the frequent target of hostile northern Indians. With little territorial protection from the islands, the Lummis moved to the mainland that encompasses Bellingham Bay. In 1858, the government established the Lummi Indian Reservation on 12,500 acres in Northwestern Washington. Today, the Lummis control only about 7,618 of those acres; the remaining 40% is now owned by non-Indians. The Lummi population at the present time reaches 1,500 people, most of whom live on the Reservation; others live in off-reservation communities like Marietta, Ferndale, and Bellingham.

WHAT KINDS OF TOOLS DOES MORRIE USE WHEN WOODCARVING?

All Morrie's tools are handmade. He uses a green stone hammer that is 150 years old. Other tools are a curved bone that has been lashed to a wooden handle and metal blades that are bound to curved handles with rawhide strips. Morrie also uses a variety of knives.

Red and yellow cedar wood obtained from Canada and sometimes from timber companies is used to carve totems and ceremonial feast bowls. Alder, birch or wild cherry wood is used for carving Lummi ceremonial masks. The Squi-qui mask, representing the protector of the Lummi people, is a mask that can only be carved by Lummi Indians.

LESSON 20: BACKGROUND INFORMATION Continued

DOES MORRIE CARVE ALL YEAR ROUND?

For the past few years, Morrie has been on the staff of the Whatcom Mus um in Bellingham. But he is presently on leave from that position and working out of the Washington State Cultural Enrichment program. His job with them involves touring to schools in the state of Washington demonstrating his woodcarving craft to thousands of students. He has also put on demonstrations at the Pacific Science Center at the Seattle Center.

He spends his rather limited free time in teaching the carving craft to young Lummis in the hopes that the tradition will not die out.

When not traveling, Morrie lives with his wife and two boys in Bellingham. His sons are learning the carving craft.

SUGGESTED ACTIVITIES FOR LESSON 20

1. ACTIVITY: Carving

   OBJECTIVE: Each student will make a carving out of soap.

   MATERIALS: Soft soap, carving tools that are not too sharp

   PROCEDURE: To give the students a feel for what kind of skill in involved in carving, ask them each to bring in a new bar of soap. Let them experiment with carving out any kind of object that they would like.

2. ACTIVITY: Comparing Craftsmanship

   OBJECTIVE: Each student will observe the difference in craftsmanship in various wooden objects.

   MATERIALS: A variety of carved objects made from wood

   PROCEDURE: Ask the students to bring in small wooden objects and carvings that they have at home. Bring in some of your own. You may want to include some of the plastic products that are supposed to pass for wooden objects. Try to determine which items were turned out on an assembly line. Take a close look at the ones that were hand made. Ask the students if they can determine a quality rating for each item.

3. ACTIVITY: Development of Indian Unit

   OBJECTIVE: Each student will be able to define the word "stereotype."

   MATERIALS: A teacher-developed unit on a Pacific Northwest Indian tribe

   PROCEDURE: Unfortunately, many people in our society tend to stereotype people of a certain race. For many years, the Indian people have been stereotyped as individuals who live in teepees or wigwams, smoke peace pipes and continually dance around a fire whooping and chanting.

   To bring about an awareness in your students that to stereotype someone means that you judge them on limited knowledge, you may want to investigate the origins of the Indian stereotype.

   Many Indian tribes do celebrate feasts and rituals and when they do, they use traditional ceremonies that include costumes, masks and dances. Why do some people get the idea that this is the only thing that Indians do? One answer may be that they take one aspect of the Indian culture and label it as a life style.

SUGGESTED ACTIVITIES FOR LESSON 20 Continued

3. PROCEDURE: Continued

In studying the origins of a stereotype, develop a unit of a Pacific Northwest Indian tribe including their ceremonial rites as part of the study.

4. ACTIVITY: Discussion of Celebrations

OBJECTIVE: Each student will illustrate a cultural celebration.

MATERIALS: Pictures, films, books, paper, crayons

PROCEDURE: To bring across the point of stereotyping, investigate a variety of rituals that people in America celebrate (e.g. Christmas, Chanukah, Halloween, Easter, Rosh Hashanah, Yom Kippur, Fourth of July, birthdays, weddings, christenings, New Year's Day, Valentine's Day, Ash Wednesday, etc.).

In discussing the activities and ceremonies that surround these events, ask the students how they would feel if they were categorized as people who "always sit around opening presents and blowing out candles and eating cake and ice cream" or as people who "always dress up in a disguise and go out begging for food" or as people who "always set off fireworks."

When the ritual surrounding these various celebrations or holidays has been discussed, let the students choose a cultural celebration that has meaning to them. Let them illustrate this through drawing or painting or role playing.

LESSON 21: TRY TO SEE IT MY WAY

CONCEPTS: Graphic artists are responsible for taking an idea and communicating it via a visual expression.

There are a variety of ways that people will advertise goods and services to get the attention of the public.

TOPIC: Graphic Art

FOCUS: Irwin Caplan, Graphic Designer

LOCATION: Graphic Studios
Seattle, Washington

BACKGROUND INFORMATION

WHO IS IRWIN CAPLAN?

Mr. Caplan was born in Seattle although his renown as a cartoonist, illustrator and graphic designer is well established in our United States and even world wide. For many years, Mr. Caplan's cartoon work, "Famous Last Words" for the Saturday Evening Post, appeared in many of the nation's leading publications including Look, Ladies Home Journal, Esquire, Life, Time and The New Yorker. Although his cartoon work is readily recognized, within the past decade Mr. Caplan has been in the spotlight with a variety of fine arts contributions. His work is seen in most of the Northwest art shows. Nationally, he has exhibited paintings at the Metropolitan Museum in New York, the National Gallery in Washington, D.C., and "Watercolor USA" in Springfield, Missouri. For the past 15 years Mr. Caplan has been a half-time instructor in Graphic Design at the University of Washington and is a member of Graphic Studios, a commercial art studio in Seattle.

HOW DOES MR. CAPLAN GET HIS IDEAS FOR HIS ART WORK?

For humorous illustration, Mr. Caplan believes that the secret lies in the artist's ability to take a look at where the particular event to be illustrated could take place. Then find the humorous element within that context.

As a graphic designer with Graphic Studios, the emphasis is advertising. Sponsors come to the studio for this end purpose. They may have a specific idea and know exactly what they want. At other times, the artist is left to do his own interpretation and may work from an advertising caption that will accompany his illustration. Humorous illustration is very much a part of today's advertising scene. Mr. Caplan is very adept at this but he and his associates also become involved in such aspects of graphic design as: architectural rendering, newspaper and magazine advertising, brochures, annual reports, fashion illustration, storybook illustration, storyboards, packaging, letterheads and catalogs.

LESSON 21: BACKGROUND INFORMATION Continued

WHAT DOES MR. CAPLAN DO AFTER A SPONSOR HAS REQUESTED A DESIGN?

As soon as Mr. Caplan decides the direction he wants to take, he will busy himself in making a rough sketch. To do this he may use a variety of tools including pencils, brushes, pens, erasers, a square edge ruler, designer colors and magic markers.

After he has done his rough sketch, he will do what is called a "paste up," which means he will arrange the sketch with the copy (written words) that goes with it. All this has to fit into a certain amount of space. He must also pay attention to the kind of type that is used in the lettering. This makes a difference in advertising. It too is a part of the design. The final sketch is an integration of many elements.

When the rough sketch is completed, it is given to the sponsor for his approval. Suggestions may or may not be made. The design may or may not be used. Mr. Caplan will have completed his contract by delivering the rough sketch. He is responsible for the design. The sponsor's firm is responsible for the actual printing of the advertisement.

WHERE MIGHT YOU SEE MR. CAPLAN'S WORK LOCALLY?

He has three pictures in the permanent collection at the Seattle Art Museum. His illustrations are often in the Sunday supplement to the Seattle Times. Among many ads that are his design are those for the Seattle Transit Company, the QFC supermarkets and local banks.

SUGGESTED ACTIVITIES FOR LESSON 21

1. ACTIVITY: Recognition of Advertising Techniques
Experience in Designing an Ad

OBJECTIVE: The student will look at a variety of humorous advertisements. Each student will choose a subject and create an ad for it.

MATERIALS: A variety of humorous advertisements collected from magazines, newspapers

PROCEDURE: Discuss the purposes of advertisements. Show samples of different humorous ads designed to sell a product or make people aware of an upcoming event. Talk about the different places where these ads are found. They are usually placed where the largest number of people will see them (newspapers, magazines, billboards, lobby areas of hotels, banks, windows, busses, etc.). Note the design of the ad -- where the drawing is placed in relation to the words that tell about it. What words stand out? Why?

After the discussion period when students have had an opportunity to look closely at the ads, let them experiment in creating their own. Have a group suggest ideas for messages, e.g. an ad for a particular product, an ad for an upcoming event (school play, carnival, movie, fair, circus, etc.) or an ad for a community service. With this age level, they may want to limit their written copy to one sentence. Key words or headlines could be cut out of newspapers or magazines to get them going. Have them pay special attention to the message they want to get across.

2. ACTIVITY: Class Discussion

OBJECTIVE: The student will bring to class a sample of a humorous ad he has found in the newspaper or in a magazine and a sample cartoon or cartoon strip from the comic section of the newspaper.

MATERIALS: Newspaper, magazine (The teacher may have some on hand for students who may not have access to them at home.)

PROCEDURE: Tell the children that you would like them to look through magazines to find humorous advertisements and bring in one that they think is good. At the same time ask them to bring in a favorite cartoon or cartoon strip from the newspaper. It should be one that they can understand. Let the students share their ads and cartoons. Have a discussion on the purposes of each type of visual communication and written message. One strives to have us see ourselves in humorous situations while the other is made for the purpose of selling a product or an event or a place.

SUGGESTED ACTIVITIES FOR LESSON 21 Continued

3. ACTIVITY: Interpreting Cartoons
Creating Conversations

OBJECTIVE: The student will write down the caption of a cartoon or the conversation of a cartoon strip.

MATERIALS: Transparencies of a couple of cartoons without captions and a couple of comic strips with blank conversation clouds
An overhead projector
A dittoed copy of a single cartoon without the caption (e.g. Family Circus), a dittoed copy of a simple cartoon strip (e.g. Peanuts or Sesame Street) with conversations left out
Pencils, crayons

PROCEDURE: Demonstrate with the overhead and transparencies the kind of thoughts that go into making up a caption or a conversation. Have the students look closely at the action in the cartoons. Draw suggestions from them as to what would be good ones. Write one down.

When they have the idea, let them choose either a dittoed cartoon or cartoon strip to work on. Let them color them. Read them to the class or post them on the bulletin board.

4. ACTIVITY: Creating a Picture from an Abstract Line

OBJECTIVE: The student will create a picture from an abstract line.

MATERIALS: Sheet of 12" x 18" paper for each student, crayons.
(The teacher marks an abstract line with a magic marker on each sheet.)

PROCEDURE: Tell the students that they are to be involved in a "secret project." Once they get their papers with their secret lines, they can place the papers in any position until they get ideas of what kinds of pictures will grow from their lines. Have them use their crayons to complete the pictures. Only when finished should they display their work to see if the rest of the class can tell where they started their pictures.

LESSON 22: HOOP DEE DOO

CONCEPTS: Participation as a member of a professional sports team requires skill, training and lots of practice.

People participate at sports events as spectators.

TOPIC: Sports

FOCUS: Spencer Haywood, Basketball Forward

LOCATION: Seattle SuperSonics
Seattle, Washington

BACKGROUND INFORMATION

WHO INVENTED BASKETBALL?

James Naismith, a physical education teacher at Springfield College in Massachusetts in 1891 developed a new indoor game for his students. He based the game on four principles:

1. The player with the ball could not make progress while he had it. Thus, the ball was moved either by passing or dribbling it.

2. There was to be a horizontal goal above the heads of the players.

3. It was to be a non-contact sport thus cutting down on roughness.

4. The ball belonged to the person who could get it without making personal contact with another player.

Naismith rigged up a peach basket at each end of the school gymnasium. A soccer ball was used at first. Naismith told his students the rules he had made up and let them go to it. They say that the name "basketball" comes from those first peach baskets that were used.

WHAT EQUIPMENT IS NEEDED TO PLAY PROFESSIONAL BASKETBALL?

The game of basketball requires a standard court 94 feet long and 50 feet wide. There is one basket attached to a backboard at each end of the court. Lines mark off the court. There are side lines and end lines. There is a mid-court line.

The basketball that is used measures 30 inches around the middle and weighs between 20 and 22 ounces with the proper pressure. Basketball shoes serve as protective equipment for the players' feet and ankles. Some players may wear knee guards. An electric clock that keeps the time of the game is operated by a timer. A scorer flashes the scores on panels next to the clock.

LESSON 22: BACKGROUND INFORMATION Continued

HOW MANY PLAYERS MAKE UP A BASKETBALL TEAM?

Each team is composed of five players. There is a center, two forwards, and two guards. After the game begins with the center jump, the players may go just about anywhere on the court. (An exception being: once the offensive team has the ball over the mid-court line, they can't pass it back again.) The offensive team, which has the ball, tries to move it toward the basket. They can't do this by running with it, so they do it by dribbling (or bouncing) the ball and by passing it to fellow teammates. The offensive team attempts to keep the ball away from their opponents (the defensive team). This will go on until a shot at the basket is taken or until the officials stop a play. Any player on the offensive team can attempt a shot at the basket. A score is recorded if the shot drops through the basket. Since the basketball changes hands very quickly and very often, every player must be skilled in playing both offense and defense. Each must know how to dribble, pass, shoot, rebound, guard, feint (fake) and jump. Needless to say, basketball requires a team's working together.

WHAT OTHER WORKERS ASSIST AT A BASKETBALL GAME?

The coach is definitely a key man to his team. He must know his players, he must know the game of basketball, he must inspire team efforts and challenge his players to do their best. Before and during the games he is making judgments. He decides who will play and when.

There are two officials: the referee and the umpire. They meet with the team captains before the game starts in the mid-court. The referee starts the game by throwing the ball into mid-air. The referee and the umpire watch for any breaking of the rules as the game is played. If they see any, they blow their whistle on the play. The officials must be in good shape and alert since they must "keep up with the team" the whole game.

Professional basketball is played for money and therefore needs the support of spectators at games during the basketball season.

HOW IS A PROFESSIONAL BASKETBALL TEAM FORMED?

The National Basketball Association (NBA) will announce that spots are open for a franchise. The franchise will be given to a group. People who are sports minded, who have enough money and who want a professional team in their city let the NBA know this. The group must guarantee the NBA a certain amount of money. The NBA will award the franchise to the group of their choice.

Once a franchise is given, it is necessary to draft players for the team. Expansion teams are announced. This means that the group that is forming can pick players from already established teams and draft them to their team. There are limitations within this drafting. One team will make available for draft only seven of its players, keeping five players that they do not want to go to another team.

LESSON 22: BACKGROUND INFORMATION Continued

IS THERE A TRAINING PROGRAM FOR THE SEATTLE SUPERSONICS?

The Sonics team was established in 1966. Basketball season runs from October to March but a professional basketball player has to stay in shape all year round. During the "non season," he will work out his own schedule for staying in shape. The Sonics go through a training camp for one week in September. Team work is crucial when playing basketball and so training camp gives the men a chance to practice their skills as a team.

In the morning the team works out for two hours. The men spend about one half hour warming up on their own. Then the coach will spend time with the team working on defense and offense maneuvers. Two hours are set aside in the evening for a scrimmage.

During basketball season, it is crucial that the team stay in top condition. This is easy to understand when we stop and realize the kind of stamina a player needs to play basketball. Someone figured out that a player will run an average of 1/10 of a mile every minute he plays. That's approximately five miles every 48 minutes on the court. While playing, he's constantly involved in drives up and down the court. These drives consist of stopping quickly, starting, turning and jumping.

The game schedule during the season varies every year, but 82 games are played. One half of these are played on the home court in Seattle and half are played "on the road." Daily work-outs are required for players to maintain their fitness and stay in practice. They usually will play two or three games a week.

HOW LONG HAS SPENCER HAYWOOD BEEN WITH THE SEATTLE SUPERSONICS?

The Sonics team was established in 1966. Spencer Haywood joined the team in December of 1970. He came to the Sonics after being with the ABA Denver Rockets for one year. Spencer has a contract with the Seattle SuperSonics that is for six seasons. The 1971-72 Sonics' Press Guide states:

> "Haywood's most deadly weapons are his outside jump-shot and his tremendous jumping ability. He is able to get off his jump-shot from any place in the court against any player, and his jumping ability enables him to go up and over many taller opponents to get that defensive rebound or tip in a missed shot."

WHAT OTHER KINDS OF ACTIVITIES DOES SPENCER HAYWOOD ENJOY?

Spencer enjoys being a professional basketball player. There is a lot of satisfaction from the team endeavor and there is a commaraderie that grows among the players. Many of them are good friends outside of game times.

Spencer is often involved in "basketball clinics." These give him an opportunity to work with young people who are interested in developing their basketball skills. They really appreciate getting tips on different basketball maneuvers from a pro!

Spencer is also part owner of KYAC AM-FM radio station. He is in a limited partnership agreement with several other Seattle businessmen. KYAC is one of only 17 stations in the nation with substantial black ownership. Spencer is also a disc jockey with the station and conducts a two-hour jazz show nightly.

Spencer has a great deal of concern about the young people who are growing up in the Seattle Central Area. As a black youth growing up in Mississippi, he faced many situations that made him want to strike out at the "white world." During his teen-age years, he faced the same kinds of questions about his direction that many of today's black youth are struggling with. Spencer feels proud of the fact that he has had the opportunity to be involved in a profession that has meaning to him. And he is anxious to talk with the young people about some of the things he has learned. Quite often, Spencer's living room is filled with some of these young people who have come over for a rap session or a chance to talk among themselves and with Spencer about some of their concerns and questions.

During his first year of fame as a pro-basketball player, Spencer was caught up in the whirl of having a lot of money to spend. Being a bit wiser now, he finds himself investing it and spending it in more worthwhile directions. One area of special concern to him is research for sickle-cell anemia. During the summer of 1972, Spencer conducted a basketball clinic free of charge. The money that was received from sponsors of the clinic went to this all important research project.

SUGGESTED ACTIVITIES FOR LESSON 22

1. ACTIVITY: Watching a Basketball Game

   OBJECTIVE: Each student will have the opportunity to watch a Sonics basketball game.

   MATERIALS: Television set

   PROCEDURE: Many of the Sonics games are televised over KTNT-TV, Channel 11. Watch the schedule in the paper and let the students know when they are to be broadcast. Let those who do watch report back to the class. (Some lucky children may be fortunate enough to attend a game!)

2. ACTIVITY: Thinking about Movement

   OBJECTIVE: Each student will think about one or two games he plays that involve a lot of body movement.

   MATERIALS: Will depend on games chosen

   PROCEDURE: You may want to incorporate this activity into a physical education period. Discuss the importance of physical fitness in the life of a professional athlete and in the lives of all of us. Many of the P.E. games you play and other activities you do are supposed to help in developing strong muscles and in keeping our bodies fit.

   Let the students choose some of the games they like to play and take a close look at them from the standpoint of coordination and how they are developing easy movement of arm and leg muscles.

3. ACTIVITY: Physical Education

   OBJECTIVE: Each student will have an opportunity to get a feel for some activities utilized in a basketball game.

   MATERIALS: Large playground balls, gym or playground

   PROCEDURE: Youngsters can become involved via relays, circle formation, or just working in pairs of some of the skill and teamwork that is necessary for playing basketball. Some of your students may already be aware of some of these maneuvers as a result of playing with older brothers and sisters or friends.

   Dribbling -- Students can bounce the ball and move. Help them to realize they can do both at the same time. However, they cannot hold the ball while moving.

SUGGESTED ACTIVITIES FOR LESSON 22 Continued

3. PROCEDURE: Continued

Passing the Ball -- Students can work in pairs or in small circles passing the ball with short, straight throws. Aim for accuracy and quickness.

Shooting for a Basket -- Regular basketball nets in your gym may be too high for first and second grade students. Check out the possibility of cutting the bottom out of a large cardboard box and attaching it somewhere where the students could practice "shooting for a basket."

LESSON 23: SLOW DOWN, YOU MOVE TOO FAST

CONCEPTS: The State Patrol is responsible for law enforcement on our state highways.

The State Patrol is needed to assist motorists.

TOPIC: Law Enforcement

FOCUS: State Trooper

LOCATION: Washington State Patrol
Various Locations, Washington

BACKGROUND INFORMATION

WHAT DOES THE STATE PATROL DO?

Providing assistance in a courteous and friendly manner has become a part of the service provided by the Washington State Patrol. Changing tires for those who are unable to, giving directions to tourists and others, providing gasoline to those whose vehicles have run dry, taking care of the injured, and performing many other services are all part of the Trooper's daily routine.

The mission of the department may be broken down into three major categories: To reduce the deaths and injuries on the highways, to promote the free flow of traffic; and to provide assistance to the motoring public.

Here are some interesting statistics which show what the Troopers did in 1971:

Assisted 646,851 motorists by changing tires, pumping gasoline, etc.
Stopped 957,944 traffic violators.
Arrested 218,118 individuals.
Pumped 14,160 gallons of gasoline, one gallon at a time.
Removed 12,241 drunken drivers from the highways.
Gave first aid to 16,311 people who were injured in 10,138 accidents.
Investigated 575 fatal accidents where 876 persons were killed.
Stopped 1,785 people for littering our highways, 823 for throwing lighted material onto our highways and 12,366 for allowing excessive smoke to be emitted from their automobiles.

HOW DOES A MAN BECOME A MEMBER OF THE STATE PATROL?

First of all he must meet the following requirements:

Completion of 2 years of college education.
No criminal record.
Good driving record.

At least 6 feet tall and not over 6 feet 6 inches, measured in stocking feet.
Male -- between 21 and 30 years of age.
In excellent physical condition.
No abnormalities in appearance, structure or speech.
Adequate vision uncorrected -- corrected to 20/20, subject to test and review.
Excellent credit record.
Be of good character.
Be able to touch type.

Once he applies to become a cadet, a thorough investigation of his background is conducted before he is accepted. The period spent as a Patrol Cadet varies according to departmental needs and individual qualifications. Cadets chosen for Academy training are designated Trooper Cadets. The training period at the Academy, near Shelton, is usually 14 weeks.

While in the Cadet Academy the cadet has a curriculum of 96 subjects which pertain to the following:

Record keeping
Investigation techniques
Law procedures
Equipment use
Assistance methods
Human relations
Extensive studies of the Highways, Fisheries, Game, Revenue, Motor Vehicles and Social and Health Services Departments, the Utilities and Transportation Commission and the Liquor Control Board of the state of Washington

WHEN DID THE STATE OF WASHINGTON ESTABLISH ITS STATE PATROL?

The law which provided for a Highway Patrol became effective June 8, 1921. It was obvious by this time that some sort of organized group needed to help the almost 200,000 motor vehicles then on the road. The first force of officers consisted of six men!

In 1933, the Legislature saw a need for the department's having full police powers--an organization that was mobile and could, if the need arose, be concentrated at any place in the state. Hence the name was changed to the Washington State Patrol.

SUGGESTED ACTIVITIES FOR LESSON 23

1. ACTIVITY: Listening and Speaking to a Guest Speaker

   OBJECTIVE: Each student will have the opportunity to meet a state trooper.

   MATERIALS: A list of questions compiled by the students

   PROCEDURE: Contact the Safety Education Division of the Washington State Patrol. Set up a time when a State Trooper could come to visit the class. Before he comes, discuss with the students some of the things they would like to find out from the Trooper. Make up a list of questions so the class will have a starting point. They may think of other questions during the actual visit.

2. ACTIVITY: Discussion, Illustration

   OBJECTIVE: Each student will tell one reason why the Washington State Patrol has been formed.

   MATERIALS: Paper, pencil, crayons

   PROCEDURE: Lead the discussion by asking, "What might happen if there were no State Troopers to help motorists?" The children hopefully will discover that many more people would lose their lives in traffic accidents, our highways might become so littered that we could not enjoy the scenery and people who run out of gas would have to walk many miles on dangerous freeways.

LESSON 24: GIVE US A BRAKE

CONCEPTS: Many people transport themselves in automobiles.

Most methods of transportation require fuel as a source of energy.

Many people depend on the workers in a gasoline service station to maintain and repair their automobiles.

TOPIC: Community Service

FOCUS: George "Smiley" Harris, Auto Technician

LOCATION: American Oil Gasoline Service Station
Edmonds, Washington

BACKGROUND INFORMATION

DOES SMILEY OWN HIS GASOLINE SERVICE STATION?

The service station was built on some land that the American Oil Company leased from the property owner. Smiley is leasing the station for three years from the American Oil Company. His lease began in March of 1970.

Smiley is responsible for hiring the other men who work at the station. When someone comes in to apply for a job, Smiley will need to know their experience record and will check with their former employers to find out what kind of work they did with them. Smiley's American station has five employees: Two are employed full time, two are employed part time, and then there is Smiley who manages the place.

Work hours are scheduled according to the number of customers that usually come in. From 7 a.m. until 10 a.m., one person can take care of the customers on his own. From 10 a.m. until 5 p.m. two men are on duty. One of these men is an auto technician or mechanic because it is during these hours that people will come in requiring that technical work be done on their cars. From 5 p.m. until 1 a.m. one man again takes care of the station and the customers and closes up. On Friday and Saturdays an extra person comes in to work part time from 10 a.m. until 5 p.m. because the weekends are very busy.

HOW DOES THE STATION GET ITS GASOLINE?

The American Oil Company is based in the Midwest. It has many oil refineries. There are pipelines from these refineries to major parts of the western United States. In our part of the country, Continental Freight Ways is a supplier to the company. Gasoline is delivered to the American station by trucks that come from the freight depot.

LESSON 24: BACKGROUND INFORMATION Continued

The ordering of the gasoline is controlled by the American Oil Company branch in Pasco, Washington. How much gasoline will be delivered is determined by looking at the report sheet that Smiley turns in listing how much gasoline has been pumped at his station over a three to four day period of time. Smiley does not pay for the gas when it is delivered, but pays for the amount of gas that has been pumped through his gasoline containers.

WHO DETERMINES THE PRICE OF THE GAS?

The American Oil Company sets its prices, but an individual dealer is allowed to use his own judgment in following their advice. In making a decision, dealers will take a look around at their competitors and sometimes fix prices in relation to their figures.

WHAT KINDS OF WORKERS ARE EMPLOYED AT A SERVICE STATION?

The manager of the station is usually the auto technician or mechanic. He may have acquired these technical skills in different ways. Smiley got most of his early experience in the service when he worked as an aircraft mechanic. When he got out of the service, he converted his skills to working on automobiles. He worked at other gasoline service stations before he leased the station from the American Oil Company. People can take courses to prepare themselves to be mechanics but the real skill is developed through the actual experience of working on automobiles.

The main reason that most people will patronize a service station is to get service for their automobile. Therefore, the salesmen who sell gas to the customers and fill up their automobile tanks are very important. Their main responsibility is to sell gasoline on the islands. Along with this service will be a check on the water and oil under the hood. Windshields are also cleaned at this time.

The auto technician will also be selling gas during the day if the load gets heavy.

WHAT MIGHT AN AUTO TECHNICIAN DO TO A CAR THAT IS BROUGHT IN FOR SERVICE?

It is important that the parts of an automobile are kept greased so that they can move with ease and keep the car going. Every so often a person should bring his automobile in for a grease job or for lubrication. The motor may need to be tuned-up after a car has been driven many miles. This is a service that a trained technician can do with the aid of a machine. Batteries may need to be recharged. Brakes may need to be adjusted, wheels balanced and aligned. Tires are an important part of any automobile and they may need to be changed or rotated.

A technician will use a wide assortment of tools in his work. A very important piece of equipment in the garage where mechanical work is done is the hydraulic lift. When a car is driven onto this platform and locked in, it can be raised by hydraulic pressure. This makes it much easier for the technician to see and work under the car.

SUGGESTED ACTIVITIES FOR LESSON 24

1. ACTIVITY: Observation

   OBJECTIVE: Each student will report how much gasoline his family car used during one week and where the car traveled.

   MATERIALS: Paper to record information
   Family cooperation

   PROCEDURE: To give the students an awareness of how much gasoline is needed to get their families around during one week ask them if they can keep records for one week. Parents may need to be notified about this project. At the beginning of the week have the students record the mileage on their family car. How many gallons of gasoline does it take to fill the tank? How much does it cost to fill the tank? How far can they go with one full tank of gasoline? Record how many miles the family car travels in one week and what places it goes (to work, to the grocery store, to shops, to recreation sites, etc.). Parents will probably have to help compute. Let the students share their records with the class.

2. ACTIVITY: Observation

   OBJECTIVE: Each student will observe the fluctuation in gasoline prices.

   MATERIALS: A gasoline service station that is located on the student's way to school or near his home

   PROCEDURE: Have each student observe one or more service stations during the week (or during two weeks) to see if their prices of gasoline change. Have the prices been raised or lowered? What time of the week did the prices change? Was it a time of the week when many customers would be coming for service? Report the findings.

3. ACTIVITY: Illustration

   OBJECTIVE: Each student will illustrate a means of transportation and the methods used to maintain it.

   MATERIALS: Books, magazines, films, glue, scissors, crayons, etc.

   PROCEDURE: Discuss the various means of transportation that we use to get from one place to another. Include such things as roller skates, bicycles, motorcycles, horses, cars, boats, planes, trains, trucks and monorails. Go through magazines to get other ideas and to get pictures of the different types of transportation. Have the students

3. PROCEDURE: Continued

choose one way, cut out or draw an illustration and write up the ways that are necessary to keep that means of transportation in proper working order. Someone may even want to illustrate a person's walking on his own two feet.

LESSON 25: TINY TANKER

CONCEPTS: Fuel is any substance that produces useful heat or power when burned.

A tanker is a ship that carries fuel.

People who live in houseboats need fuel to keep them warm during the wintertime.

TOPIC: Fuel Distribution

FOCUS: Dick Timberman, Owner

LOCATION: Tiny Tanker, Inc.
Lake Union, Seattle, Washington

BACKGROUND INFORMATION

WHAT IS A "TINY TANKER"?

A tiny tanker is a small boat which carries fuel. The Tiny Tanker Company has two tankers. One is named "Blondie," the other, "Dagwood." Blondie is 26 feet long and Dagwood is 35 feet long.

WHAT DOES A TINY TANKER DO?

Blondie and Dagwood belong to Mr. Dick Timberman of the "Tiny Tanker" Company. The tankers deliver stove oil to houseboats during the winter months and carry diesel oil to boats during the summer months.

WHAT DOES DICK TIMBERMAN DO?

Dick and the Tiny Tankers are now servicing about 300 boats with diesel oil and about 100 houseboats with stove oil. Dick bought the company seven years ago simply because the houseboats have moved and more people are living in houses and apartments. Along with the Tiny Tanker Company, Dick has a dry dock service where he completes contracted work on boats in the area.

WHERE DOES HE GET THE OIL?

The oil is brought to Dick's office via truck. The oil is emptied into underground tanks. Dick will sometimes order 8,000 gallons of oil three or four times each month!

LESSON 25: BACKGROUND INFORMATION Continued

WHAT IS FUEL?

Fuel is any substance that produces useful heat or power when burned. We use fuel to heat our homes and to cook our food. Without fuels, our airplanes, trains, and automobiles could not run, and most of our factories would be idle.

Nature produces the common fuels such as coal, oil, and natural gas. These fuels come from beneath the earth's surface, where they were formed millions of years ago from plants and animals. Chemical plants make gasoline, kerosine and other fuels from these common fuels. Man has also learned how to use nuclear fuels that provide heat and power from atomic energy. In addition, electricity can be classed as a fuel when it is used to produce heat, as in an electric stove.

An important thing to remember about fuel is that nature makes it. That fact makes this an environmental concern. Today we feel free to use what we need but we must not waste fuel. It is a non-renewable resource.

SUGGESTED ACTIVITIES FOR LESSON 25

1. ACTIVITY: Experiment

   OBJECTIVE: Students will state the definition of fuel and give at least one example of a fuel source.

   MATERIALS: A magnifying glass, a metal pan, a piece of tissue paper, a sunny day and an adult

   PROCEDURE: Discuss the definition of "fuel." Talk about several fuel sources. Lead the discussion to solar energy. The following experiment demonstrates how solar energy can be captured and used as fuel.

2. ACTIVITY: Art Project

   OBJECTIVE: The student will make a collage of things which require fuel and different forms of fuel.

   MATERIALS: Old magazines, construction paper, scissors, paste

   PROCEDURE: Lead a discussion which asks questions such as, "What makes a car go? a stove work? a ship move? people move?" Have the children look through magazines to find pictures of things which require fuel (ships, machines, people, heaters, cars) and different forms of fuel (oil, gas, coal, charcoal, coke, wood, bark, atoms, food).

3. ACTIVITY: Discussion

   OBJECTIVE: Each child will be able to name four types of shelter.

   MATERIALS: If possible, pictures of homes on stilts, apartments, huts, an igloo, a ranch house, prefabricated homes, caves, adobe homes, houseboats

   PROCEDURE: Discuss the several types of shelter and how weather and environment affect the style of each. How is each of these homes heated? How is your home heated?

LESSON 26: IS EVERYTHING SHIPSHAPE?

CONCEPTS: Maintenance of boats and ships is necessary if they are to continue to serve their purpose.

Skilled craftsmen are part of a shipyard team that maintains boats and ships.

TOPIC: Water Transportation

FOCUS: Maintenance

LOCATION: Pacific Shipyard
Anacortes, Washington

BACKGROUND INFORMATION

WHAT KINDS OF WORKERS ARE EMPLOYED AT THE PACIFIC SHIPYARD?

There are eleven employees at the shipyard. Many of them have been there for more than 15 years. Although each worker has a specialty, most are qualified to work in a variety of areas. The workers include:

two outside machinists
an inside machinist
a painter
a shipwright (does woodwork)
three welders
a storekeeper (checks out supplies and tools, and does the ordering)
two "roustabouts" (helpers in the yard)
a secretary (responsible for bookkeeping, time keeping, filing, etc.)

The shipyard is open Monday through Friday from 8 a.m. to 4 p.m., although on some occations a job may require working overtime on the weekends. The busiest months for the shipyard maintenance are between February and late spring since the boats are usually in operation during the summer months. Of course, boats do need repair during the summer so the shipyard is busy all year.

WHAT KINDS OF BOATS ARE MAINTAINED AT THE SHIPYARD?

Various ship and boat owners contract the shipyard to do work for them. Fishing boats give the shipyard the most business. Among these are purse seiners, gill-netters, trawlers, halibut boats and tugs. Many are brought from Alaska once every three years for a complete maintenance check. A variety of things may need to be done. Often a new shaft (steel bar used to support rotating parts) needs to be built in the machine shop. The boats usually need to have bottoms scraped, new planks put in and new paint applied. Many barges are brought to the shipyard as well as an occasional ferry boat.

LESSON 26: BACKGROUND INFORMATION Continued

Coast Guard ships are also brought in. A new environmental requirement issued by the Pollution Control Agency now requires that all Coast Guard vessels be installed with Sewer Abatement Systems. This means that the shipyard will install a specially designed holding tank on the ship that will collect all the sewage collected while the ship is in operation. This sewage is then treated before it is deposited into the water. Coast Guard vessels also come to the shipyard for repairs and maintenance at least once a year. Among these is bottom scraping that is done by a sand blasting treatment.

SUGGESTED ACTIVITIES FOR LESSON 26

1. ACTIVITY: Vessel Identification

   OBJECTIVE: Each student will be able to illustrate two different types of boats or ships and tell what their purposes are.

   MATERIALS: Pictures or films of a variety of boats and ships (e.g. purse seiners, gill-netters, trawlers, tugboats, ferry boats, ocean liners, police patrol boats, etc.)

   PROCEDURE: Over a period of time, present these different vessels and discuss their purposes. Many directly affect our lives. Bring this out to the students in discussion. Let the students illustrate two or three of these vessels that appeal to them and show what it is that they do. Accuracy in drawing is not as important as the student's knowing the kind of vessel and its importance. He'll know what his drawing means.

2. ACTIVITY: Discussion of Pollution Control

   OBJECTIVE: Each student will illustrate a positive and negative condition of a body of water.

   MATERIALS: Paper, crayons, paints, etc.

   PROCEDURE: Lead a discussion of some of the enviormmental concerns that are present as regards to our streams, rivers and lakes (oil spills, mercury poisoning, polluted water, littered lakes and streams). What contributions do boats and ships make to the pollution factor? What contributions do people make? What controls have been put on ships and boats to eliminate or lower their pollution contribution? What can people do to cut cown their contribution?

   Have students illustrate a picture of the way they would like to see the rivers and lakes. Have them illustrate what will happen if man continues to abuse this element of his environment.

LESSON 27: OOEY GOOEY

CONCEPTS: Geoducks are a type of clam that only recently have been harvested for commercial use.

Commercial harvesting of geoducks requires that attention be paid to environmental controls that have been established by the Department of Fisheries.

Going into business requires team work, know how, perseverance and faith.

TOPIC: Clam Harvesting

FOCUS: Diving Team and Processing Plant

LOCATION: Washington King Clam, Inc.
Poulsbo, Washington

BACKGROUND INFORMATION

WHAT IS A GEODUCK?

A geoduck, pronounced "gooeyduck", is a hard shell clam. Its name comes from an Indian word meaning "dig deep".

These King clams are found from Alaska to Mexico but are especially abundant in Puget Sound south of Anacortes and in Hood Canal. During the past two decades, local skin divers discovered that the bottom of Puget Sound contained millions of geoducks. This dispelled the belief that geoducks were scarce and lived only at the low tide line. Their main habitat is between 20 and 120 feet beneath the surface.

CAN ANYONE "DIG" FOR GEODUCK?

Washington State requires no license for geoducks but there is a daily limit of three with no size specification. In Washington you may dig for geoducks on state recreational tidelands and on several small undeveloped islands in Puget Sound.

There is no easy way to dig a geoduck. You need a shovel, a bucket and a lot of determination. You'll need to know when low tides will be occurring. Most

BACKGROUND INFORMATION Continued

geoducks are exposed only during the low tides of minus two feet or below. You will notice sunken indentions approximately two inches in diameter or see the geoduck siphon exposed. Digging procedure involves digging with your hand around the siphon of the geoduck. Dig with your hands until you reach the hard shell. Wiggle the shell free being careful not to pull the siphon so it breaks away from the shell. Rinse clams and put them where they will remain moist and make sure you refill the hole where you removed the geoduck.

HOW ARE GEODUCKS HARVESTED COMMERCIALLY?

In Washington, geoducks may be taken the entire year by trained divers. Fewer are harvested in the months between October and April. It is against the law to dredge for them. Commercial fishery is limited to licensed individuals or firms who have leased pollution free, underwater lands from the state on a bid basis. The underwater areas all contain large quantities of king clams and are at least one quarter mile from shore.

At Washington King Clam, Inc., divers harvest geoducks the year round wearing three or four layers of neopreme foam rubber wet suits to keep out the cold. The most efficient method of diving is with surface supplied air from low pressure compressors. Air is supplied through a flexible hose to a face mask worn by the diver.

A surface-to-diver communication device is provided to increase diver safety and facilitate raising bags of the hand-harvested clams. They "dig" with hand-held, high-pressure water hoses. A protruding clam neck is grasped and the water jet is opened, loosening the soil around the geoduck. The clams are put into a net gunny sack attached to the diver's suit. When full it is brought to the surface where team members furnish the diver with a new sack and then set about putting the geoducks into plastic containers. This makes the beginning stages of processing easier when the boat returns to the plant and also prevents the shells of the geoducks from cracking.

HOW LONG DOES A DIVER STAY UNDERWATER?

With Washington King Clam, Inc., the harvesting procedure usually involves a team of four divers and a work day that can last anywhere from 8 to 12 hours and yield 1500 to 2000 geoducks. The team goes out to a designated tract in a 40-foot boat that has been converted from a gill netter to serve the purposes of those men. Diving time limitations are governed by depth and temperature. At a depth between 30 and 40 feet a diver may remain on the bottom for three hours; between 40 and 50 feet, for 100 minutes; and only for 60 minutes when diving between 50 and 60 feet.

HOW ARE GEODUCKS PROCESSED?

Workers in the Washington King Clam plant (including both men and women) are kept busy once the geoducks are brought back by the diving teams. The containers are lifted from the boat by a machine. Once inside the plant the following steps occur.

1. The clams are dipped in hot water to remove their shells.
2. The outer skin is peeled off.
3. The stomach section is removed.
4. The rest of the geoduck is cut into sections according to what type of cuts have been ordered.
5. The sections are sent through a washer.
6. Steaks and chunks for chowder immediately go into a 30° cooler.
7. Here steak sections are sent through a punching machine where needle-like punctures are made in them.
8. Out of the cooler, the back skin is sliced off.
9. There is a final trimming of tough gristle and skin.
10. Pieces are put through a cubing machine.
11. They're immediately quick frozen.
12. When sold to distributors or brokers, the geoduck is packed frozen either as steaks or chopped.

The geoduck orders now go to places such as Baltimore, California, Idaho, Montana, Oregon, Nebraska, Japan and, of course, our own state of Washington.

WHAT PART OF THE GEODUCK CAN BE EATEN?

The entire king clam is edible with the favorite portions being the neck (siphon) or breast meat. The thinner, upper 2/3 of the neck is best ground for chowder. The thicker base of the neck, the breast and the round gonad is sliced about 1/2 inch thick and these steaks sautéed. The neck section is pounded with a mallet or cuber to tenderize it.

WHO OWNS WASHINGTON KING CLAMS, INC.?

Four men are in partnership as owners of Washington King Clams, Inc. They are Harry Thornton, Don Webster, Brian Hodgson and Jerry Hilden. Each has invested his own money in the venture. They all got involved on chance. Their interest started with their digging of geoducks on the beach. When they realized that more geoducks were underwater, they sought ways to get them and learned how to skin and SCUBA dive.

A lot of time, money and struggle was present their first two years in business. After leasing tracts from the state, there was the investment in the processing plant and equipment. They encountered technical problems with diving operations. These were solved. Processing problems were solved but this took additional money. It took six months of experimenting with different processing to come up with an acceptable product.

The biggest problem has been selling the geoduck product. People are unfamiliar with it and have been hesitant about trying something new. At this time business is good. Due to the success of the product as tried by various restaurants, word has spread. A lot of time is now spent in travel and promotion of the product.

Some creative ways have been found to bring the public's attention to geoducks and their potential as a part of one's diet.

Below are the words to the GEODUCK SONG written by R. Konzak and J. Elfendahl.

Up here in the Pacific Northwest we have a giant clam called the Geoduck.
He's a tricky critter and you really have to stick your neck out to get one.

1. You can hear the diggers say as they're heading for the bay
   Oh, I've gotta dig a duck
   Gotta dig a duck a day
   Cause I get a buck a duck if I dig a duck a day
   So I gotta dig a duck, dig a duck a day.

Chorus:

Dig a duck, dig a duck, dig a geoduck
Dig a duck, dig a geoduck, dig a duck a day. Repeat

2. It takes a lotta luck
   And a certain kind of pluck
   For to dig around the muck
   Just to get a geoduck
   Cause he hasn't got a front and he hasn't got a back
   He doesn't know Donald and he doesn't go quack.

Chorus Repeat two times.

LESSON 27: OOEY GOOEY Continued

I went into town to my favorite cafe
Told the waitress I had to dig a duck a day
She tried to give me turkey, she tried to give me ham
No! I demanded Washington King Clam.

Chorus

Repeat first verse.

Chorus Keep repeating quickly.

SUGGESTED ACTIVITIES FOR LESSON 27

1. ACTIVITY: Comparing Different Kinds of Mollusks

OBJECTIVE: Each child will be able to identify four classes of mollusks and know how they differ.

MATERIALS: Pictures of Clams, Oysters, Slugs, Snails, Squids, Tooth Shells

PROCEDURE: Use discussion and pictures or films to bring about an awareness of these facts.

A mollusk is a soft-bodied animal without bones. Most kinds of mollusks have a hard armorlike shell that protects their soft body.

A mantle produces the substance that makes the mollusk shell. Liquid shell materials squeeze out from the edges of the mantle and add themselves to the shell as the mollusk grows. This is one way of determining how old the mollusk is.

Mollusks live in most parts of the world. But wherever they live it is important that they keep their bodies moist. This is the only way they can stay alive.

Mollusks are used mainly as food.

There are different classes of mollusks.

Univalves have a single coiled shell. (slugs, snails)
Bivalves have two shells held together by hinges. The shells are usually open. When the animal senses danger, strong muscles will pull the shells closed. Bivalves get their food and oxygen through their siphon. This tube can be stretched to reach food. (razor clam, geoduck)
Octopuses and Squids are active mollusks that live in the ocean and move about freely.
Tooth Shells have shells that resemble tusks and are slender and curving. All tooth shells live in the ocean and have a pointed foot.

SUGGESTED ACTIVITIES FOR LESSON 27 Continued

2. ACTIVITY: Sharing of Experiences

OBJECTIVE: Some students will tell of their experiences digging for clams and beachcombing.

MATERIALS: None

PROCEDURE: Ask the students if they have ever had the experience of digging for clams. Let those who have share with the class. What other kinds of experiences have they had combing the beach? What kinds of things have they seen, found or even brought home with them?

3. ACTIVITY: Creating a Geoduck Puppet

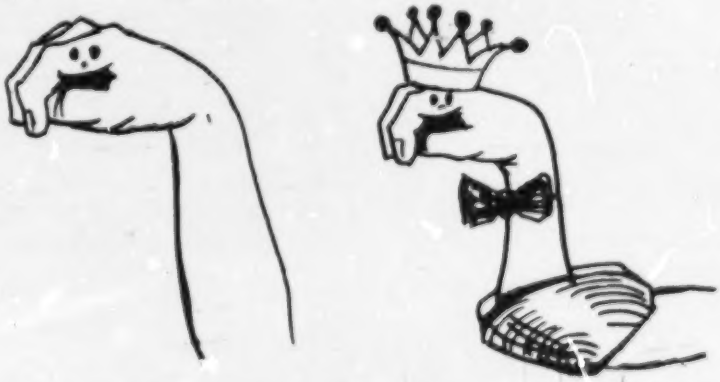
OBJECTIVE: Each student will create a geoduck puppet.

MATERIALS: Heavy white paper, crayons, rubber band, black construction paper, yellow construction paper...

PROCEDURE: Use the heavy white paper to form the shell of the geoduck. The shell can be shaded in with crayons to look more realistic.

The shell fits over the student's upper arm. The arm from the elbow to the hand will be the geoduck's siphon. Make a fist and move the thumb to create a mouth.

To give the geoduck some personality, a bow-tie attached to a rubber band around the wrist will dress him up. And, of course, as a King Clam, Mr. Geoduck should have a crown.



Sing the Geoduck Song or create a skit about what it's like to be a geoduck!

LESSON 28: EVERY LITTER BIT HURTS

CONCEPTS: Everyone has refuse.

We depend on the garbage collector to help us get rid of refuse.

Disposing of refuse raises questions of environmental concern.

TOPIC: Community Service

FOCUS: Garbage Collector

LOCATION: Seattle Disposal Company
Seattle, Washington

BACKGROUND INFORMATION

WHAT IS THE SEATTLE DISPOSAL COMPANY?

The Seattle Disposal Company is a privately-owned company which is contracted by the city of Seattle to collect the citizens' refuse.

WHO ARE THE PEOPLE THAT WORK FOR THE SEATTLE DISPOSAL COMPANY?

Administrators This includes organizers and secretaries who make sure that people get the services for which the company is responsible.

Collectors These men begin their day at 7:00 am and will travel to about 500 homes during that day. They are paid on an incentive basis. This means that if they finish early they may leave early. When the two men on the team are finished with their route, they bring the truck back to the company and check the truck to see if it needs any servicing.

Repairmen The repairmen work to keep the trucks operating. They might fix the engine of the truck or work on the hydraulic part where the garbage is compacted.

WHERE DOES THE COLLECTOR TAKE THE GARBAGE AFTER HE PICKS IT UP FROM PRIVATE HOMES?

Sometimes he takes it directly to the city dump. Many disposal companies, however, have the garbage collector take it to a transfer station. At the transfer station waste is put into big trucks. The waste can be sorted for recycling. Then it is either taken to a recycling plant or trucked to the city dumps. Seattle Disposal Company recycles corregated paper on Pier 54.

BACKGROUND INFORMATION

WHAT ARE THE ECOLOGICAL IMPLICATIONS OF WASTE REMOVAL?

Each person in the United States produces an average of 4.8 pounds of refuse every day. By the year 2000, we will produce 6.8 pounds of rubbish each day. Between 1970 and 2000 almost 10 billion tons of solid refuse will have accumulated in the United States. The nation is running out of dumping space -- one answer seems to be "recycle".

Another answer may be in the consumer's life style habits. Many of the products we buy are packaged way beyond what is needed. We reach for a paper towel in the kitchen when perhaps a rag will serve the purpose. Many grocery stores are now encouraging customers to "recycle" their shopping bags by bringing them back for use the next time they come shopping. In many ways we create waste without thinking about it. There are many small ways we could cut down on the refuse we produce.

SUGGESTED ACTIVITIES LESSON 28

1. ACTIVITY: Making a Chart

   OBJECTIVE: The child will make a chart to show how many times each week the family's trash needs to be emptied into the garbage cans. The child will make the chart to become aware of the potential trash problem in the home if the garbage collector did not come to pick up the family's trash.

   MATERIALS: 8½" X 11" paper, pencil.

   PROCEDURES: Have each child make a chart which has each day of the week indicated across the top and the dates beginning each week in the month marked down the side of the paper.

   Show the children how to mark a tally each time a member takes the trash outside. Data may be collected for one week's time or one month's time. Have children report their findings at school. Discuss what would happen if the garbage man didn't pick up the garbage each week.

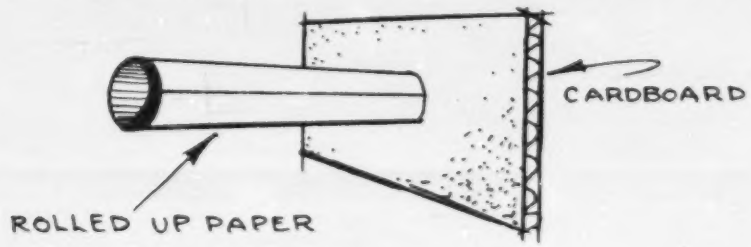
2. ACTIVITY: Make a model of a garbage truck.

   OBJECTIVE: The child will duplicate a truck which shows the method in which the truck compacts garbage.

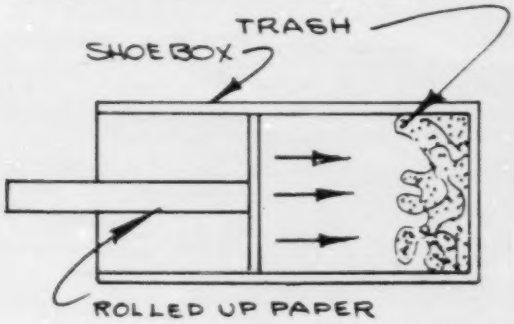
   MATERIALS: Shoe box. Cardboard piece. Small boxes like aspirin boxes, tea boxes. Glue.

   PROCEDURES: Cut the cardboard to fit the inside of the shoe box. Glue a rolled up piece of paper and tape it to the center of the cardboard at a 90° angle.

   Cut a hole in the center of one end of the box. Place the cardboard piece into the shoebox and insert the rolled up piece of paper through the hold. As the child pushes the cylinder, the cardboard makes the space on one side of the box smaller, thus "squashing" anything in that area. Glue smaller boxes to the end of the shoe box to form the cab of the truck. Add paper and paint to make it look like a garbage truck.



SUGGESTED ACTIVITIES LESSON 28

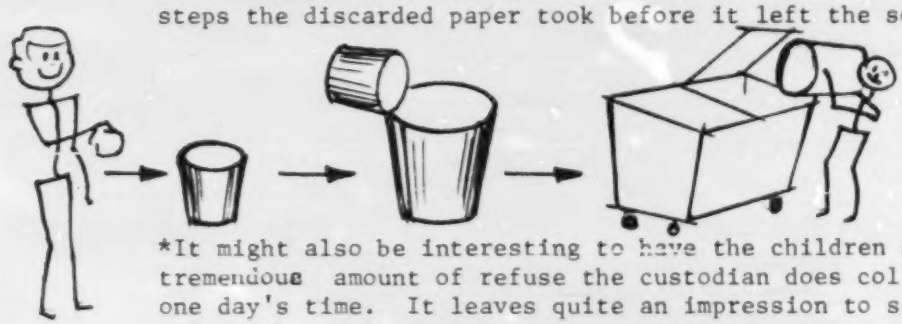


3. ACTIVITY: Observation of the School's Disposal System

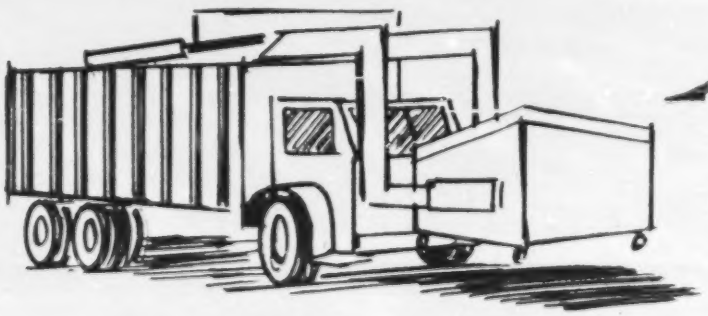
OBJECTIVE: The child will help make a diagram showing the steps of trash disposal at his school.

MATERIALS: Large manilla chart paper, colored pens

PROCEDURES: Have the children follow a piece of discarded paper out of the school. After a class discussion have children draw the steps the discarded paper took before it left the school.



*It might also be interesting to have the children see the tremendous amount of refuse the custodian does collect in one day's time. It leaves quite an impression to see it all gathered in one place as opposed to seeing one waste basket in the classroom. If this process is not completed at a time for students to observe, perhaps a Polaroid picture could serve the purpose.



LESSON 29: POP, FIZZ! GEE WHIZ!

CONCEPTS: Although bottling and canning processes are done automatically, people are still needed as the "human element" to insure a flawless product.

Used glass products are being reclaimed and reused to minimize the removal of glass and cans from the natural environment and to reduce pollution.

TOPIC: Soft Drink Bottling

FOCUS: Production Line

LOCATION: Glaser Beverages
Seattle, Washington

BACKGROUND INFORMATION

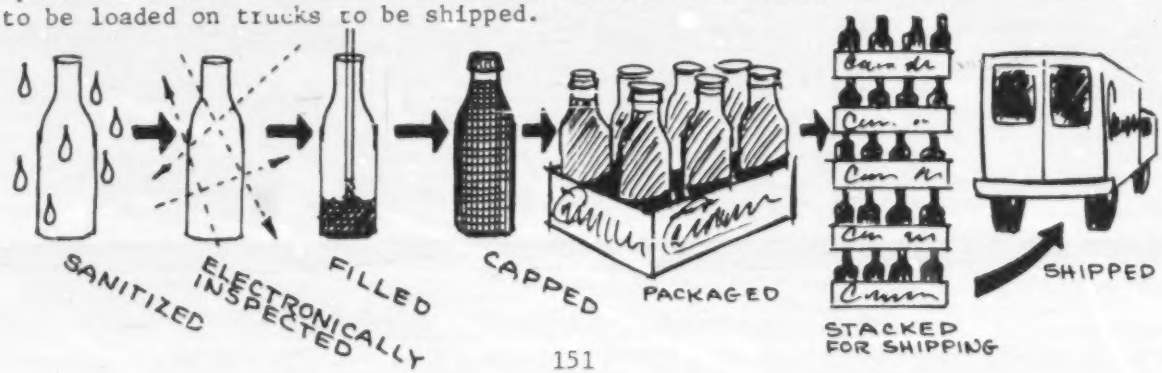
WHAT PRODUCTS ARE BOTTLED AT GLASER COMPANY?

Pepsi, Seven-Up, Canada Dry, Dr. Pepper, Hires, Orange Crush, Nesbitt's Orange, Squirt and Western Family's Tastewell are bottled and canned at Glaser.

WHAT ARE THE STEPS TO BOTTLING A PRODUCT?

Returnable bottles are put into a machine which sanitizes them in 40 minutes. As the bottles come out of the sanitizer a machine called the "electronic inspector" checks to make sure that nothing has been left inside the bottles and that they are sterilized. Non-returnable bottles need not be sterilized because they haven't been used and are sterilized when they are made.

The bottles then are moved via conveyor belt to the machine which "shoots" the beverage into the bottles at a rate of 600 bottles per minute. Almost immediately the bottles are capped. From there the bottles move to a packaging machine which puts the bottles into cartons or six packs. Then, on they go to the machine which cases the bottles. Automatically the cases are stacked on wooden shelves called "pallets." Machines hoist the loaded pallets to a storage area where they wait to be loaded on trucks to be shipped.



LESSON 29: BACKGROUND INFORMATION Continued

ARE THE SAME STEPS USED IN CANNING BEVERAGES?

Basically, yes. The cans, of course, have lids put on them rather than caps and the containers in which they are cased are also different from the cases for bottles.

HOW IS "POP" MADE?

The basic ingredients of the formula are flavoring syrup, sugar, water and carbon dioxide. Water charged with carbon dioxide gas causes the water to bubble as the gas escapes. The soda water is stored in metal tanks under pressure. It is drawn off and mixed with flavorings to make the finished drink.

A man mixes the formula in a mixing tank which holds up to 2,500 gallons. He then tests the formula to make sure it has the exact amounts of each ingredient. As the beverage is bottled the formula is tested every 30 minutes to double check for exactness of ingredients.

WHERE IS THE POP SHIPPED?

The bottled beverages at Glaser Company are shipped to distributors in Seattle. The canned products are shipped along the west coast from Alaska to California.

WHY ARE CARBONATED DRINKS CALLED "POP"?

The expression dates back to the 1880's -- before the bottle cap was invented. Bottles were sealed by pressure pulling a glass ball in the neck up into a rubber ring. Difficult to open, you had to insert your finger into the neck of the bottle. By pushing the glass ball down, the bottle opened with a loud "POP."

DOES GLASER HAVE FACILITIES FOR RECYCLING?

Yes. Bottles can be brought to the Glaser Beverage Company on Monday, Wednesday and Friday from 10 a.m. to 2 p.m., 2300 - 26th South, Seattle. On these days, bins are put in a section of the parking lot. Each bin is to be used for one type of glass, either green or white, or bottles which can go through the sanitizing machine at Glaser to be refilled. Then the glass is crushed and sent to Northwestern Glass Company where the recycling process is completed.

CAN CIVIC, CHARITABLE AND OTHER GROUPS ORGANIZE "BOTTLE DRIVES" IN THE COMMUNITY?

Yes. In many communities this is already being done. Some groups, such as Boy and Girl Scouts and organized clubs, have developed their programs by setting up permanent collection points. Other programs collect glass periodically from homes in the community.

SUGGESTED ACTIVITIES FOR LESSON 29

1. ACTIVITY: Pop Tasting Party

   OBJECTIVE: Each child will taste the displayed beverages and tell how one beverage is like another or different from another.

   MATERIALS: Small cups. Containers filled with Pepsi, Seven-Up, Dr. Pepper, orange drink, orange pop, orange juice, lemonade, etc.

   PROCEDURE: Make a list of beverages to be tasted. Assign children to bring one of the beverages so that you maintain the variety. As the children taste each drink have them comment on the beverage's characteristics -- Is this drink sweet? sour? carbonated? Remember this is a tasting party so be sure the children take only a few tablespoons of each drink so that we'll avoid upset stomachs. Sounds like fun! If you happen to need two extra guests, give us a call!

2. ACTIVITY: Experiment (Too much pop may equal too many cavities.)

   OBJECTIVE: The class will put an extracted tooth into a glass of pop and will observe and tell about what happens to the tooth over a period of two months.

   MATERIALS: One extracted tooth (Please borrow from the tooth fairy rather than extracting one which will be needed to knaw on corn on the cob in the near future.) One glass of a soft drink

   PROCEDURE: Place the tooth into the glass of pop and have the children observe the tooth each day. As the weeks go by you will see the tooth decaying. Be sure to point out to the children that we need a balanced diet and that soft drinks should be taken only in moderation to help teeth stay healthy.

LESSON 30: SERVICE WITH A SMILE

CONCEPTS: In order for a restaurant to run smoothly, many people must perform duties efficiently and work as a team.

TOPIC: Community Food Service

FOCUS: Staff of restaurant.

LOCATION: Ivar's Salmon House
Seattle, Washington

BACKGROUND INFORMATION

WHAT TYPE OF RESTAURANT IS THE SALMON HOUSE?

As the name implies, the specialty at the Salmon House is salmon. People come to this restaurant to taste the fish which has been cooked over alder chips. The Makah Indian theme has been carried throughout the restaurant. Wood carvings which were made by Mr. Ivar's uncle as well as Indian murals which were carved and painted by Duayne Pasco can be seen at the Salmon House.

The Salmon House is open Monday through Friday from 11:30 to 2:00 for a buffet lunch and 5:00 to 10:00 for dinner. On Saturdays and Sundays they are open to serve dinner from 5:00 to 10:00.

WHO IS IVAR?

Ivar is one of Seattle's restauranteers. He owns four fine restaurants, all of which specialize in sea foods. You might visit any of these restaurants while in the Seattle area: Ivar's Acres of Clams, Pier 54; Ivar's Captains Table, 333 Elliott Way; Ivar's Indian Salmon House, 401 N. E. Northlake Way; and Ivar's on Broadway, 305 Broadway East.

WHAT PEOPLE ARE NEEDED TO OPERATE THE RESTAURANT?

There are seventy-five people involved in serving the seven thousand customers who come to the Salmon House each week. About twenty-five people work to feed a "full house" of three hundred sixty-five people. The types of jobs which make up the "team" are these:

Yardsmen	They prepare ingredients which the cook will need. This includes slicing lemons, breaking lettuce, preparing relish cups, etc.
Salmon cutter	He fillets between 700 and 800 fish in one day! The fish comes from Sea Port Fish, Alaska and is a beautiful pink color which is typical of the Silver Salmon.

BACKGROUND INFORMATION Continued

Runner	These people bring the food from the kitchen to the serving area.
Cook	The cook makes the meal a tasty, healthy one! Recipes are continuously being revised until the "magic" combination is developed.
Dishwashers	They set up the dishes and work the machine which cleans and sterilizes large quantities of dishes and utensils.
Bar tenders	These people prepare the customers' beverages.
Waitresses and Busboys	All of these people are busy meeting the customers' needs. They have been hired for their racial background as well as for their efficiency. Ivar has included help from the Oriental and Indian races to add to the Indian feeling he is trying to relate throughout the restaurant. Many are students who have come from as far as Thailand and the Philippines to attend the University of Washington.
Manager	Mr. Roark has definitely worked his way towards the top of restauranteering. He began working for Mr. Ivar twelve years ago as a busboy and is now working hard to insure efficiency at serving the clientele of the Salmon House.

SUGGESTED ACTIVITIES FOR LESSON 30

1. ACTIVITY: Serving A Meal

   OBJECTIVE: Each person will do his job to create a classroom restaurant.

   MATERIALS: Food, depending upon menu
   Construction paper, crepe paper, crayons, scissors

   PROCEDURES: Discuss the ways in which the restaurant people work as a team. Plan a meal which the class would like to serve to their customers. Assign children to act as yardsmen, runners, cooks, dishwashers, waitresses, busboys and manager. The class could make the menus, placemats, paper aprons, paper hats, napkin holders. Invite parents or another class to be your customers.

   The meal can be anything: a spaghetti dinner, an ice cream sundae feast, sandwiches, relish plate, fruit buffet, etc.

2. ACTIVITY: Making A Menu

   OBJECTIVE: Each student will design and make a menu.

   MATERIALS: Construction paper, crayons, paints, glue, scissors

   PROCEDURE: Discuss what information is included on a menu. Show different styles of menus and tell how many have a theme (e.g. Mexican, circus, fish). Have the children make a menu which includes the name of the food, a description, price, beverages.

3. ACTIVITY: Art Project

   OBJECTIVE: Each child will make a napkin ring.

   MATERIALS: Toilet tissue cylinders, newspaper, liquid starch, tempera paint, glue, shellack

   PROCEDURE: Cut toilet tissue cylinders into 1-1/4 inch lengths. Cover each piece (inside and out, being careful to cover the edges) with six layers of newspaper strips dipped in liquid starch. Allow them to dry thoroughly and paint with tempura. Coat them with shellack and let dry. As an added finishing touch, glue felt strips to the inside of each holder and glue fabric designs around the ring.